Mountain City Ranger District
Heritage Overview

USDA Forest Service
Humboldt-Toiyabe National Forest

Prepared By
Karen Kumiega
2007

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INTRODUCTION

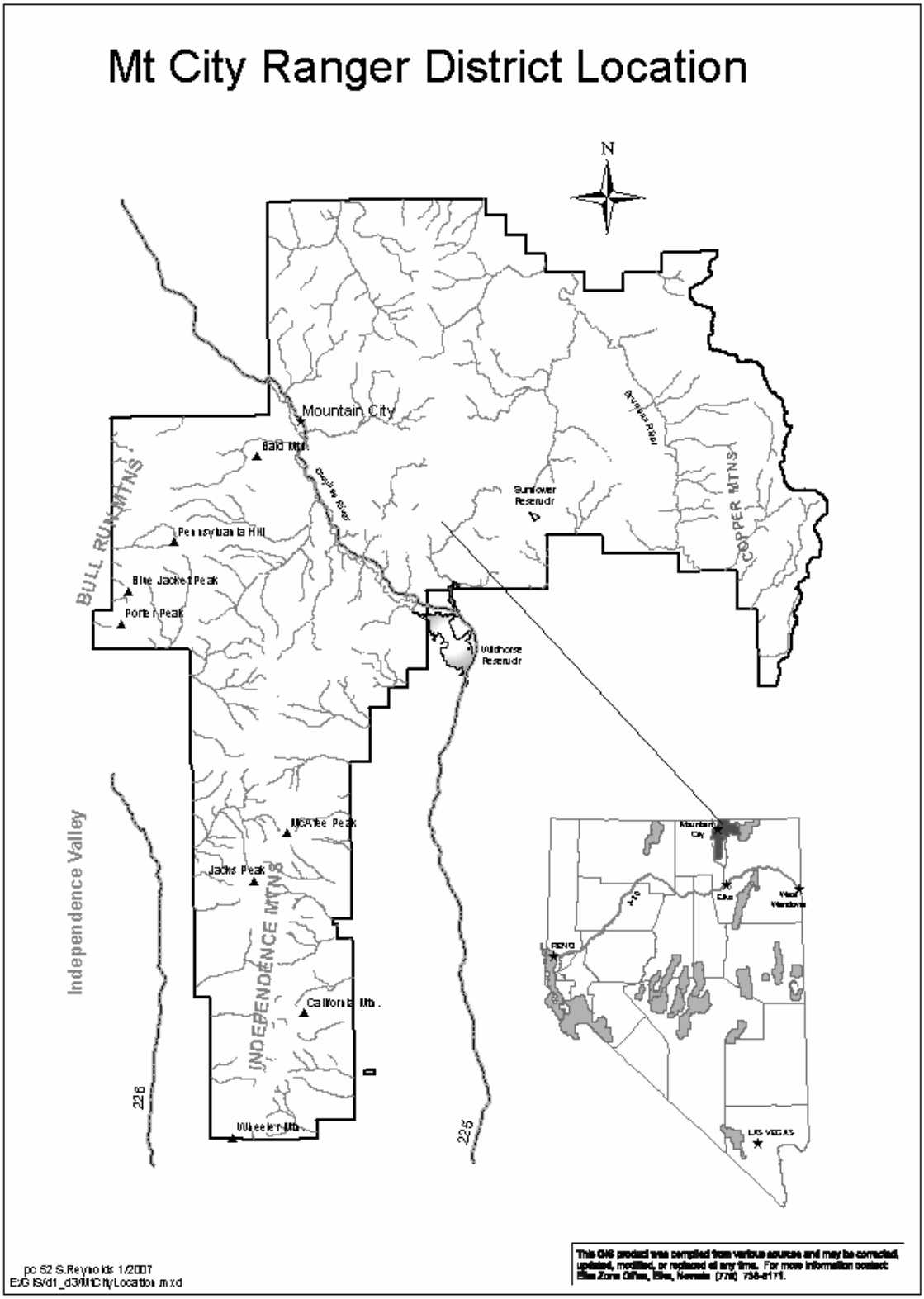
The rangeland management program on the Humboldt-Toiyabe National Forest administers rangeland practices according to a number of existing laws that include the Organic Administration Act (16 U.S.C. 551), the Forest and Rangeland Renewable Resources Planning Act (P.L. 93-378, 88 Stat. 476, as amended: 16 U.S.C. 1601), the Public Rangelands Improvement Act (92 Stat. 1803, 43 U.S.C. 1752-1753, 1901-1908) and others. It is understood that rangeland practices may have an adverse impact on historic properties that may be included in or eligible for inclusion in the National Register of Historic Places. In 1995 the Humboldt-Toiyabe National Forest entered into an agreement with the Nevada State Historic Preservation Office on methods of dealing with cultural resources as they pertain to grazing and rangeland management on the forest. A Memorandum of Understanding (MOU), tiered off the 1995 National Programmatic Agreement, was developed that defined several strategies to deal with the effects of rangeland management practices on historic properties. The MOU was developed pursuant to Section 800.13 and Section 110 of the National Historic Preservation Act. Among those defined strategies is the development of an overview for each rangeland management unit on the forest.

This *Mountain City District Heritage Overview* represents the overview requirement stipulated in the MOU for the Mountain City Ranger District rangeland management area but can be utilized to address effects to heritage resources for all types of undertakings, that includes, but is not limited to fuel reduction, recreation, and mineral exploration. The overview is a document that contains information concerning the environment (paleo to present), prehistory, floral and faunal resources, enthography and history of the area from which predictive models, and survey and treatment strategies can be made. It demonstrates the impact humans have had on the environment and how the environment has impacted human behavior. The overview is divided into two parts, the "General Overview", which documents briefly the history of the subject area, and the "Research Contexts" that provide a framework for evaluating the significance of an area's historic resources.

Currently the Mountain City District covers approximately 490,500 acres of land. Of these acres approximately 61,132[1] (12.5%) have been surveyed for cultural resources. The majority of the acres surveyed are in the southern and western portions of the district where mineral exploration and mining is the prevailing activity and more cultural resource surveys have been conducted as a response to those activities. As of mid 2005, 459 sites and 317 isolated finds have been recorded in the district. The sites include 267 prehistoric sites, 165 historic sites and 27 multi-component sites that contain an assemblage of both prehistoric and historic artifacts. The

[1] These acres are a total of all the acres surveyed per project. In some cases the surveyed acres overlap if multiple surveys have occurred in the same location, therefore this total number may be inflated from the actual number of acres surveyed across the district.

Figure 1


Mt City Ranger District Location
N
Mountain City
Bald Mtn.
Pennsylvania Hill
Blue Jacket Peak
Porter Peak
Sunflower Reservoir
Wildhorse Reservoir
Owyhee River
Bruneau River
BULL RUN MTNS.
COPPER MTNS.
Independence Valley
INDEPENDENCE MTNS.
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prehistoric sites are mainly small hunting related campsites with flaked stone artifacts. They make up the majority of all sites recorded numbering 267 (58%). The remaining prehistoric site types include hunting blinds, rock shelters, and tool stone quarries. The 165 (36% of site total) historic sites include water conveyance systems, roads, cabins, ranches, artifact scatters, mining communities, mining features and aspen carvings. The 27 (6%) multi-component sites usually consist of an historic feature or artifact scatter superimposed on a prehistoric flaked stone scatter.

The following overview synthesizes information found in many historical documents, secondary documents and publications, and results from previous archaeological and paleoecological investigations in the Mountain City Ranger District and the Great Basin in general.

Figure 2: Humboldt National Forest Staff. Forest Supervisor Syd Tremewan front row second from left. Circa 1910, Unknown Photographer.

ENVIRONMENTAL OVERVIEW

PRESENT ENVIRONMENT

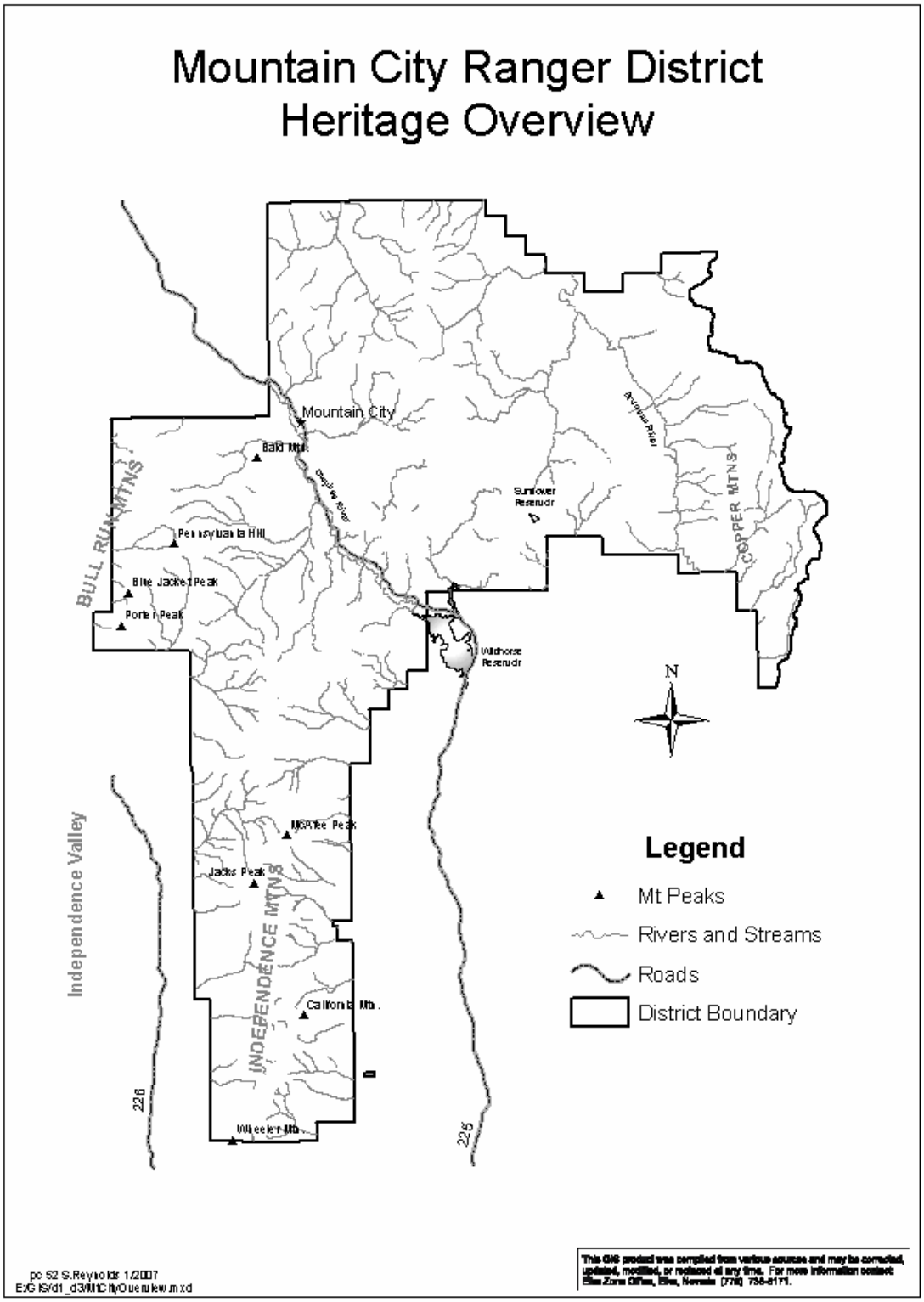
The Mountain City Ranger District is located in northern Elko County, in the northeast corner of Nevada (See Figure 1). The district's southern most terminus is approximately 37 miles north of the city of Elko in the Independence Mountains. Wheeler Mountain at 9,057' marks the southern most boundary (See Figure 2). The district continues north from this point and ends at the Idaho border after skirting around the southern and eastern boundary of the Duck Valley Indian Reservation. The northern half of the district continues east past the Copper Mountains to the western boundary of the Jarbidge Ranger District. District elevations range from 4600' in the Lower Bruneau River to 10,439' at McAfee Peak.

Three north-south trending mountain ranges fall within the district boundaries. The Copper Mountains are along the eastern edge of the district with the highest point being Copper Mountain at an elevation of 9911'. The Bull Run Mountains are along the northwestern edge of the district. Two peaks in this range are over 9000 feet in height; Pennsylvania Hill at 9119' and Porter Peak at 9268'. Finally, the Independence Mountains, which makes up the southern most portion of the district, includes the highest elevations with McAfee Peak at 10,439' and Jacks Peak at 10,198'.

The Mountain City Ranger District is divided into two hydrographic provinces; the Great Basin and the Snake River Plain. This hydrographic divide passes through the Independence Mountains just north of the North Fork Humboldt River. All streams and rivers in the Great Basin area eventually drain south into the Humboldt River. Some of the largest water-courses include the North Fork Humboldt River, Jack Creek, California Creek and Gance Creek. Many of the rivers and streams in the Independence Mountains begin as springs.

The northern portion of the district is in what is called the Snake River Plain Province. In this area all water-courses drain north into the Snake River in Idaho. The largest water-courses that drain north include the Owyhee River, Bruneau River, Meadow Creek, Martin Creek and Trail Creek. Two manmade reservoirs are found in this portion of the district; Sunflower Reservoir and the Wildhorse Reservoir, which is mostly outside the district boundaries. The Sunflower Reservoir was built in approximately 1897 to impound waters of Gold Creek for hydraulic placer mining (LaPointe et al. 1991:124). The Wildhorse Reservoir was established in 1938 to impound waters of the Owyhee River in order to provide water for irrigation to the Duck Valley Indian Reservation. The size of the reservoir was increased with construction of a new dam in 1968 (Patterson et al. 1991:61).

Figure 3


Mountain City Ranger District
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Geology
The geology of the general Elko County area ranges in age from the "pre-Cambrian to Recent, and include thick units of Paleozoic, Mesozoic, and Tertiary age" (Granger et al. 1957: 1). These formations were folded and broken by thrust faults prior to the intrusion of granitic rocks, which are now seen as rock outcrops. During the Tertiary age and continuing into the Quaternary, volcanic activity began, resulting in Lavas and pyroclastics, together with intercalcated sedimentary rocks covering much of Elko County (Figure 4). During this time normal faulting also occurred giving the area its present topography and mountain ranges. Glacial activities have also contributed to formation of the mountains in this area. Glacial cirques, moraines and plaster slopes are a few of the landforms encountered. Glaciated peaks in the Mountain City District include Copper Mountain, Porter Peak and Merritt Mountain.

Soils
Soils in the Mountain City District have not been formally mapped as of this time. An attempt was made sometime during the late 1970s or early 1980s to classify soils according to landform types (USDA Forest Service NDa). The information presented here is a brief generalization of the soils discussed in three basic landform types, lower canyon and valley bottoms, foothills and fluvial mountain slopes. Soils in the lower canyon bottoms or valley bottoms, typically between 5,600 and 7,500 foot elevations are alluvial in nature and are typically a gravely loam to sandy loam with 30-60% gravels and a lesser percentage of cobbles. Soils are well drained with moderately low erosion potential except along down cut stream channels.

The mountain foothills are typically below 7,000 feet and are in arid to semi-arid moisture regimes. Shallow drainages with slopes at 5 to 30% are typical but some steeper slopes do occur. Soils are moderately deep with a clay-loam to clay texture. Gravels range from 10 to 45% with cobbles up to 10%. The clay soils are not well drained and the erosion potential is moderate to moderately low.

The fluvial mountain landtype consists of moderately steep mountain slopes between 6,400 and 9,500 feet that have been formed by fluvial action. Slope gradients range from 15-90% with the majority between 40 and 60%. Soils in this landtype range from shallow to deep, dependant upon steepness and micro-topographic situations. The soils typically have dark surface soils and are gravely to extremely gravely. Erosion potential is moderate to high.

Vegetation Communities
The majority of vegetation across the Mountain City District is in the sagebrush vegetation community (Figure 5). Higher elevations contain mixed conifer forest with aspen. Wet and dry meadows and riparian areas are also present but in fewer locations. The sagebrush community can extend to nearly 10,000 feet in some areas (IMACS 1988). The higher elevations are dominated by low sagebrush (*Artemisia arbuscula* var. *arbuscula*) or black sagebrush (*Artemisia arbuscula* var. nova) on steep slopes and in thin soils. Tall sagebrush (*Artemisia Tridentata)* communities are found in deeper soils in well-drained valleys, mountain bases and alluvial fans. Other shrubs typically found in the sagebrush community may include rabbitbrush (*Chrysothamus*) varieties, and bitterbrush (*Purshia tridentata*). A variety of grasses and forbs are also found within this community. A few of the more common include bluebunch

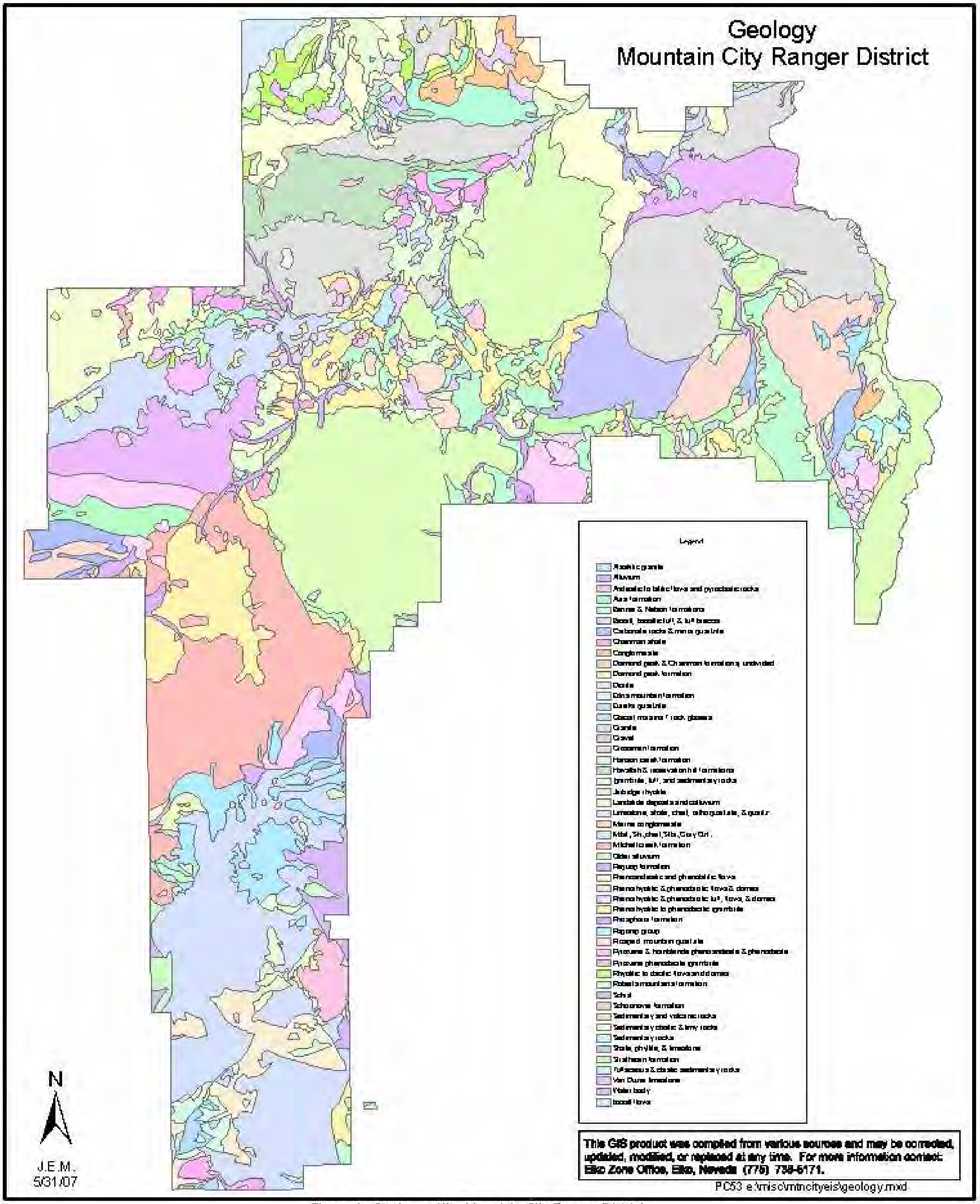


Figure 4: Geology of the Mountain City Ranger District

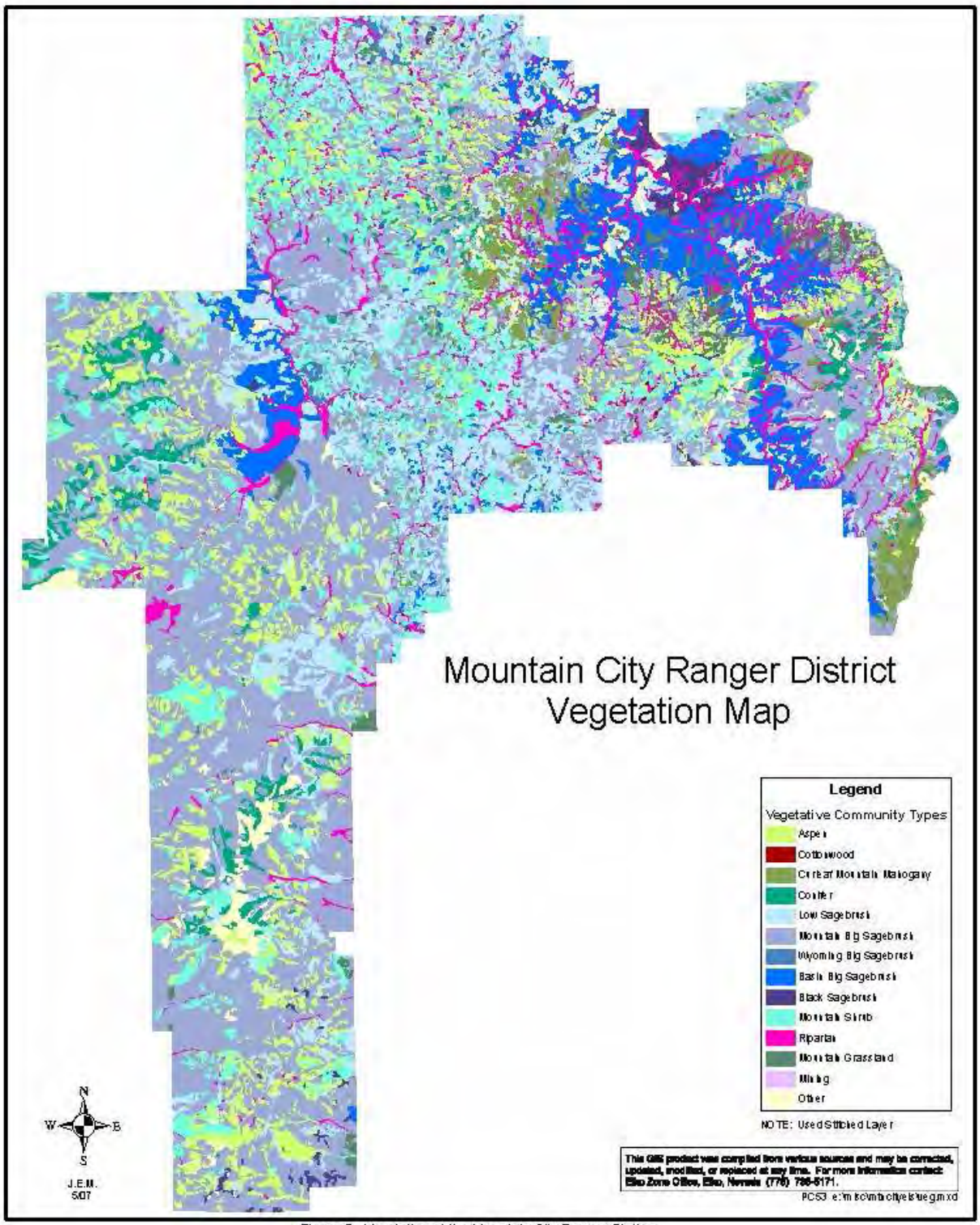


Figure 5: Vegetation ot the Mountain City Ranger Station

wheatgrass (*Agropyron spicatum*), arrowleaf balsamroot (*Balsamorhiza sagittata*), wild rye (*Elymus cinereus*), Indian ricegrass (*Oryzopsis hymenoides*), and mules-ears (*Wyethia amplexicaulis*). In riparian areas vegetation may include aspen (*Populus tremuloidies*), cottonwood (*P. fremontii*) and willow (*Salix sp*.).

In the higher elevations mixed conifers can be found, particularly in wetter areas and along the north facing slopes. Four main conifer species may be found that include subalpine fir (*Abies lasiocarpa)*, limber pine (*Pinus flexilis*), juniper (*Juniperus osteosperma* on dry hillsides and *Juniperus scopulorum* in and near drainages) and whitebark pine (*Pinus lalbicaulis*) (USDA Forest Service NDb). Both limber pine and whitebark pine can be found on Pennsylvania Hill while only whitebark pine is found in the Jacks Peak area only 17 miles south of Pennsylvania Hill. Pinyon is not found in the Mountain City District. Other vegetation types found in the higher elevations include low sagebrush, bitterbrush, aspen and willow.

PALEO-ENVIRONMENT

In the Great Basin, changing environments through time have affected the locations and methods of human survival over thousands of years. Little research has been conducted in the Mountain City District area but along with studies conducted in numerous other regions within the northeastern Great Basin, what has been done has provided a general description for past environments in the greater northeast Nevada region (Figure 5). This section will summarize some of the most pertinent information from these studies beginning in the Late Pleistocene continuing into the Holocene, a time in which human occupation is first documented in the region. This transition documents previous Great Basin characteristics and how they have changed to current conditions.

Late Pleistocene (40,000 years BP to 10,000 years BP)

The Late Pleistocene is characterized as a wetter time during which numerous large lakes and glaciers were in existence across the Great Basin. These *Pluvial Lakes* were the result of lower ambient temperatures, which resulted in less evaporation, coupled with a higher precipitation rate than that experienced in today's climate. Although none of the pluvial lakes drained into the Mountain City District the information gathered from studying them provides clues to the general climatic variations.

Two of the largest pluvial lakes in the Great Basin share similar histories. Pleistocene Lake Bonneville roughly 100 miles east of the Mountain City area was the largest lake in the Great Basin covering almost 20,000 square miles (Grayson 1993:85). Research has shown that the Bonneville Basin was quite dry as far back as 32,000 years ago. From that time forward the basin began steadily filling in with water and increasing in size until it reached its peak level approximately 16,000 years ago. Sometime after 14,200 years ago the lake began a steady decline and by 12,000 years ago it had reached its historic level (Grayson 1993:91). A short-term increase in the lake level occurred between 10,900 and 10,300 years ago reaching what has been called the Gilbert level.

Lake Lahontan, in Western Nevada, was the second largest lake covering over 8,600 square miles (Grayson 1993:85). It reached its peak level sometime around 13,800 years ago (Grayson

1993:95). By 10,000 years ago it had reached a level that is similar to mid-nineteenth century times. Although poorly documented, it appears that Lake Lahontan also experienced a short-term increase in the lake's level roughly the same time as the Gilbert level of Bonneville Lake. This level was named the Russell shoreline (Grayson 1993:95).

Numerous other smaller lakes were scattered around Utah, Nevada, Idaho, Oregon, and California but none are found in the Mountain City District area. The closest, Lake Franklin in Ruby Valley, also reached its highest point during the Late Pleistocene. Although it reached a height of 1850 meters, 32 meters above the current Ruby Marshes level, it did not overflow into any other drainage basin (Thompson 1984:137). Pleistocene Lake Franklin covered about 1250 km^2 compared with the current 55 km^2 surface area of the modern Ruby Marshes. The following is a list of other small lakes found in Nevada approximately 100 to 150 miles south/southeast from the Mountain City area (Table 1).

Table 1: Pluvial Lakes

Pluvial Lake	Location	Area (Square Miles)
Antelope	Antelope Valley	48
Clover	Clover & Independence Valleys	352
Diamond*	Diamond Valley	392
Waring	Goshute & Steptoe Valleys	541

*Lake overflowed into an adjacent basin at maximum levels.
(Information from Grayson 1993:85).

Vegetation found during the late Pleistocene differed from that found in today's climate. Analysis of packrat middens and pollen from lake sediments has provided knowledge of the types and extent of vegetation coverage throughout the Great Basin. Pollen analysis from lake sediments began in the 1940s by Henry P. Hansen of Oregon State University (Grayson 1993:118). Research into vegetation and past climate changes continues today. In northeastern Nevada, the Ruby marshes have been a focus of study. The marshes are fed by ground water, not mountain stream runoff that can fluvially transport significant amounts of pollen from higher elevations or other locations. This characteristic has provided "a rare opportunity to reconstruct and contrast changes in paleolimnology and basin vegetation over the last 40,000 yr" (Thompson 1992:1).

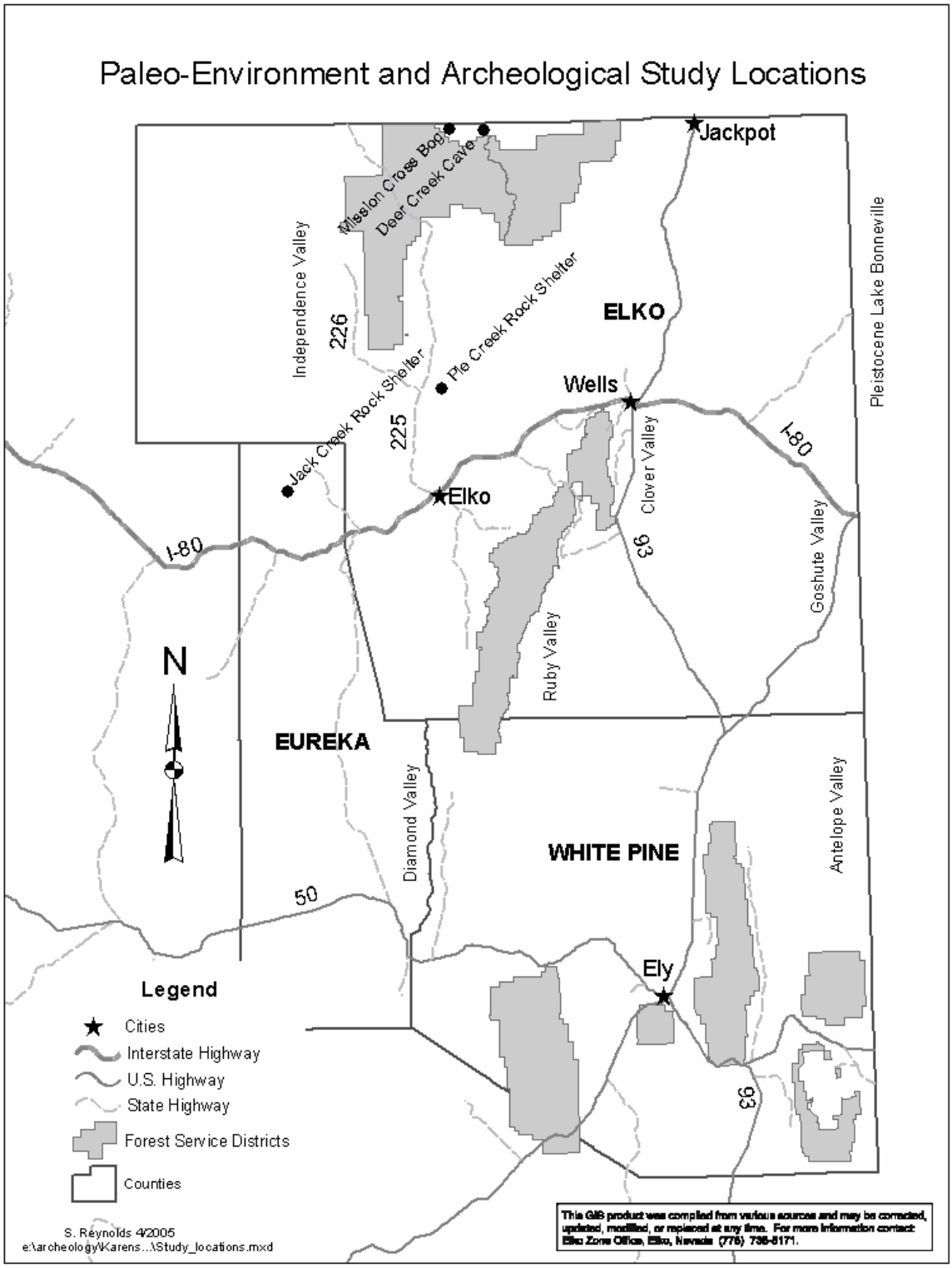
Robert S. Thompson studied Late Pleistocene and Holocene environments across the Great Basin during the late 1970s and 1980s (Thompson 1984 and 1992). The closest study to the Mountain City District was his research at the Mission Cross Bog, at the junction of the Jarbidge and Copper Mountains at an elevation of 7950' along the eastern boundary of the Mountain City District. He concluded that sagebrush-grass vegetation was important over the last 8000+ radiocarbon years and that there was an expansion of shadscale steppe and juniper woodland between 8000 to ~5000-4260 years B. P. During that same time period there was a decrease in subalpine vegetation indicating a warmer and/or drier period (Thompson 1984:220). A rise in pine and fire pollen after 5000 years B. P. was also noted that indicates a cooler and/or moister period. Thompson also conducted studies elsewhere. To the south he studied core samples from Upper Dollar Lake in the Ruby Mountains, the Ruby Marshes (aka Ruby Lake), and a bog at the

Tomera Ranch in Pine Valley. He also studied pack rat middens from various rockshelters in northeast Nevada and pollen from soil samples from various elevation and vegetation types in the Ruby Mountains.

During the 1990s David Rhode researched vegetation changes over the last 50,000 years in the northeastern Great Basin using pack rat midden analysis (Rhode 1998). Woodrat midden and pollen core data from Northeast Nevada is abundant for this time period providing a good picture of what the environment was like, both floral and faunal. Only one packrat midden, at Top of the Terrace rockshelter in the west side of the southern Goshute Range, provides information dating back 50,000 years (Rhode 1998:3). The rockshelter sits at an elevation of 6600' and is currently in a Utah Juniper woodland with scattered pinyon, sagebrush, cliffrose, mormon tea, rabbitbrush, wild rye and other shrubs. The oldest pollen samples from the shelter show that Utah Juniper, sagebrush, horsebrush, snowberry and cactus were prevalent at that time when it was warmer and/or drier. The pollen samples show that Utah Juniper was not present in the area between 46,000 BP and 6,000 BP. Rhode's research also showed a substantial vegetation change during the Terminal Wisconsin Period between 14,000 and 10,000 years BP along the western margin of the Bonneville Basin. Vegetation at the beginning of this period was montane shrub but limber pine began to spread into the lower elevations about 13,000 years ago. By 11,000 years ago desert scrub vegetation began to replace the limber pine (Rhode 1998: 12).

Most other packrat middens in Northeast Nevada date to the Late Pleistocene, 14,000 – 10,000 years BP. This time period also marks the arrival of human occupation in the area. A synthesis of these records indicates that the period between 14,000 and 12,000 BP was warmer and moister "supporting montane meadows and woodlands in the north and more thermophilic (heat loving) woodland plants in the southern part of the Bonneville Basin. However, the warming that occurred between 14,000-12,000 BP was not so great as to prevent subalpine conifers from colonizing large areas at low elevations along the Bonneville highstand shoreline. Limber pine woodlands expanded significantly to the margins of the Bonneville Basin during this period" (Rhode 1998:14-15). From 12,000 to 10,000 BP there was a trend towards warmer and drier conditions with sagebrush steppe replacing the spruce/pine woodlands (Rhode 1998:15).

Thompson's interpretation of vegetation and climatic changes in Ruby Valley is based on one Ruby Lake sediment core that reached the Pleistocene level. This core contained 6,800 year old Mazama ash and provided 17 radiocarbon dates, which provided a good understanding of the Late Pleistocene/Early Holocene record (Grayson 1993:136). Unfortunately much of the Late Pleistocene pollen record between 15,400 and 10,800 years ago is not well represented. During this time period it has been suggested that Lake Franklin in Ruby Valley either dried up resulting in no sedimentation deposits or there was "some local depositional quirk" (Grayson 1993:137). After 10,800 years ago the lake filled in again and the pollen record resumes. Thompson's work showed that pines were less abundant, juniper either rare or non-existent and the vegetation of Ruby Valley during the late Pleistocene was mainly a sagebrush steppe (Grayson 1993:138). Based on the vegetation characteristics, Thompson suggests that the weather was stable, colder, and relatively dry with precipitation coming mainly during the winter months (Thompson 1984:233).


Paleo-Environment and Archeological Study Locations
Jackpot
Mission Cross Bog
Deer Creek Cave
Independence Valley
226
Pie Creek Rock Shelter
ELKO
Wells
Jack Creek Rock Shelter
225
Elko
I-80
Clover Valley
93
Goshute Valley
Pleistocene Lake Bonneville
I-80
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Ruby Valley
EUREKA
Diamond Valley
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Antelope Valley
50
Ely
93
Legend
Cities
Interstate Highway
U.S. Highway
State Highway
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Counties
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Figure 6

Along with vegetation changes came changes in mammal species. Radiocarbon dates from various Great Basin cave sites show that megafaunal species were varied during the Pleistocene. However, the Late Pleistocene saw numerous species either move to more suitable environments or become extinct altogether. Although research of late Pleistocene paleontology has been minimal in the Great Basin there is still some data from which to make general observations. Rhode's research at Top of the Terrace rockshelter revealed pika pellets "in a range that pikas do not now inhabit" (Rhode 1998:10). Megafauna, such as, giant short-faced bear, sabertooth cat, horses, yesterday's camel, diminutive pronghorn, Harrington's mountain goat and various species of ground sloth became extinct altogether during this time (Grayson 1993:159).

Vegetation types began changing between the Late Pleistocene and Early Holocene from 11,000 to 10,000 years ago. This time period, also called the Younger Dryas represents the beginning of Paleo-Indian occupation of the Great Basin. It has been suggested that between 11,200 and 10,100 years ago the climate was highly volatile and averaged 5-6 degrees centigrade cooler than today's temperatures (Madsen 1999:81). Around 10,900 years ago shallow lakes were present in basins that had dried up years previous. "Vegetation throughout the Paleo-Indian period was characterized by continually changing mosaics with many species occurring in combinations not found at present. Limber pine was widely available at low elevations throughout much of the Great Basin. Mesic shrub communities dominated lower elevation valleys in much of the northern basin, particularly in the northwestern basin" (Madsen 1999:81-82). Large game animals were probably similar to those found today, however, their populations were probably reduced due to the volatility of the changing climates. Paleo-Indian foraging during this time was most likely affected by these conditions as well.

Holocene (10,000 years BP to Present)

The Holocene period generally begins about 10,000 years ago and continues to the present. The Holocene is commonly divided into three periods, early, middle and late based upon climatic conditions that most likely overlapped significantly (Rhode 1998:16). Ernst Antevs, a geologist studying past climate changes, proposed new terms to describe much of the Holocene or the Neothermal, as he called it (Figure 6). The time frame for the beginning of his Anathermal period is 1000 years later than other researchers have suggested, when a distinct change in the climate occurred.

Figure 7

The Neothermal (Postglacial or Postpluvial)*

Present to 2500 B.C. – Medithermal – moderately warm
2500 to 5000 B.C. – Altithermal – distinctly warmer than at present
5000 to 7000 B.C. – Anathermal – at first as today but growing warmer
*Summarized from Antevs 1948

Grayson divides the Holocene differently. His early Holocene ranges from 10,000 to 7,500 years ago, the middle Holocene from 7,500 to 4,500 years ago and finally the late Holocene being the last 4,500 years to the present (Grayson 1993:193). Research continues to define the epochs of

the Holocene. Many feel that Antevs' model is generally too broad and disagree with his description of the Altithermal as being a warm arid period. It has been suggested that the Altithermal was more wet and humid or more variable than Antevs suggested (James 1981:11, Grayson 1993:215).

"The early Holocene is often considered a relatively cool, transitional interval between the glacial period and the warmer Holocene" (Rhode 1998:16). Between 10,000 and 8,000 years ago temperatures were still cool and lower slopes along valley margins had fewer trees than either the previous Younger Dryas or the present (Madsen 1999:82). Thompson's research in Ruby Valley showed that between 10,800 to 6,800 years ago water levels in Ruby Lake were deeper than modern conditions (Thompson 1992:1). Grayson (1993:197), however, states that "By 6,800 years ago, when Mazama ash fell in Ruby Valley, the basin was nearly dry." Packrat middens from east-central Nevada have shown that "bristlecone pines were replaced by limber pines and Rocky Mountain juniper during the late glacial and early Holocene" (Thompson 1992:12). Packrat middens in the Snake Range, to the southeast of the Jarbidge District, show that bristlecone and limber pine grew at 6,500 feet in elevation along the northeastern slopes as late as 7,350 years ago (Grayson 1993:198). At Hidden Cave in the Lahontan Basin sagebrush pollen was more abundant between 10,000 and 6,800 years ago than any time after these dates; however, the amount found was a reduction from previous years (Grayson 1993:197). Thompson's research at Ruby Valley also showed a decline in sagebrush pollen but cheno-ams[2] (including shadscale) increased about 7,700 years ago indicating an expansion of the shadscale environment (Grayson 1993:211).

Knowledge of early Holocene small montane mammals is limited. This lack of knowledge is mainly due from the lack of excavations in cave sites with early Holocene deposits. Only one mammal, the Pika was known to have inhabited the Jarbidge Mountains during the early Holocene but they are now extinct (Grayson 1993:202). Madsen (1999:82) suggests that the Great Basin environment began approaching its current condition after 8,000 years ago, however, it was not fully in place until the late Holocene.

The Middle Holocene roughly between 7,500 to 4,500 years ago was considered a warmer time period with low precipitation. It was during this time that many of the pluvial lakes dried up. Thompson's work at the Mission Cross Bog located in the Copper Basin shows that a warmer and drier climate prevailed from approximately 8,000 to 5,000 years ago (Thompson 1984:220). During that time the shadscale steppe and juniper woodland communities expanded and subalpine vegetation was reduced, indicating a warmer and/or drier than modern climate. Research in the White Mountains of Eastern California, in Ruby Marsh, Mojave Desert, and the Steens Mountains in southeastern Oregon have all revealed similar climatic patterns during the Middle Holocene (Grayson 1993:210-215). Between approximately 5,000 and 3,600 years BP subalpine vegetation species at the Mission Cross Bog expanded suggesting a temporary cooler and/or moister climate. During this period, high percentages of Abies pollen was found in the core sample reflecting the "most mesic[3] interval in the profile" (Thompson 1984:220).

[2] Cheno-ams is defined as a broad group of plants in which pollen morphology is not easily distinguished. It includes plants in the Chenopodiaceae family such as saltbushes (*Atriplex)*, greasewoods (*Sarcobatus*) and pickleweed (*Allenrolfea)*, and plants in the amaranth family.
[3] Mesic is defined as moderately moist.

The warmer, drier Middle Holocene may also be linked to the establishment of the pinyon/juniper woodland in the Southern Ruby Mountains (Thompson 1992:13). Packrat middens dating prior to 6,600 years ago show no evidence that pinyon existed in the area. In the Schell Creek and Snake ranges, in eastern Nevada, pinyon shows up in packrat middens roughly 6,250 years ago (Grayson 1993:216). Hearths excavated by David Thomas at Gatecliff Rockshelter, in the Toquima Range in central Nevada, show pinyon pine and juniper increasing dramatically between 6,000 and 5,600 years ago (Grayson 1993:216-217). Other research compliments the evidence suggesting that pinyon pine entered the Great Basin from the south no earlier than 6,500 years ago (Grayson 1993:216).

The Late Holocene begins approximately 4,500 years ago and continues to the present. It was during this time that the modern distribution of flora and fauna becomes established throughout the Great Basin, with a few exceptions (Madsen 1982:103). This time period is marked by conditions that are cooler and moister than the middle Holocene but not as cool and moist as the early Holocene. The climate, however, did fluctuate within this time period with periods of warmer and drier conditions interspersed. In Ruby Valley the lake level increased and cheno-am pollen declined while sagebrush pollen increased to its highest frequency (Grayson 1993:222). The Great Salt Lake, in Bonneville Basin, also increased to its highest Holocene point sometime between 3,000 and 2,000 years ago and then again from 500 to 200 years BP (Grayson 1993:223, Rhode 1998:24).

The fluctuations in climatic conditions did have an affect on vegetation, but not as significant as during the shift from the Late Pleistocene to the Early Holocene. "The midden record representing the Late Holocene is more abundant than that representing the previous several thousand years, in large part because of reduced preservation of older middens, but also because packrats may have been more abundant during the Late Holocene than the middle Holocene" (Rhode 1998:25). Eleven midden samples from northeast Nevada indicate that vegetation during this time period is similar to what is found around them today, with a few exceptions. Mormon tea and Utah juniper both increased in abundance during the last two thousand years and some taxa, such as Utah juniper shifted in elevation (Rhode 1998:26-27). As stated previously the pollen record at the Mission Cross Bog showed pine, spruce and fir pollen reaching a peak at about 3600 years ago (Thompson 1984:220). Plant remains from Hogup and Danger Caves, both in western Utah, "suggest that the last 600-1000 years have been among the driest and warmest of the entire Holocene" (Rhode 1998:28).

Vegetation and mammalian changes in the last 150 years have been more extensive than throughout the Holocene. Euro American settlement, ranching, mining, and transportation have had significant impacts on vegetation communities in the Great Basin. Introduced species such as cheatgrass and tumbleweed have invaded large tracts of land "profoundly affecting ecological dynamics in these communities" (Rhode 1998:28). The introduction of domestic cattle, horses and sheep impacted native animal species such as mountain sheep and elk by spreading diseases and increasing the competition for available food resources.

Understanding the changing climate, vegetation and faunal changes in the Great Basin is important to our understanding of prehistoric human adaptations over time. Changing climates and the resultant floral and faunal changes can stress local populations, particularly in areas with

high population densities. An increase in aridity may make an area unsuitable for human habitation. Gaps in the archaeological record at cave sites may suggest that there were periods of time when people moved away from certain areas due to temperature extremes (Aikens 1982:148). Certain changes can also contribute to a population's survival. The movement of pinyon pine into the Great Basin provided populations with a food staple. Elevational shifts in important plant species would have an effect on settlement and subsistence patterns. The extinction of large animal species at the transition from Late Pleistocene to Early Holocene may also have had significant impacts to local human populations. Fluctuating temperatures that forced small mammals to move to more appropriate locations would have had an impact as well. Although people most likely moved in response to resource fluctuations throughout the postglacial period archaeological evidence suggests that they did not abandon the Great Basin region (Aikens 1982:149).

Grayson (1993) provides an excellent summary of the research completed on Late Pleistocene and Holocene environmental changes up to 1993 (pages 226-229).

NATIVE AMERICAN OCCUPATIONS

PREHISTORY

PREVIOUS RESEARCH

Although there have been numerous cultural resource surveys and many sites recorded in the Mountain City District, mainly due to mineral exploration and mining activities, there has been minimal comprehensive research concerning the prehistory and cultural chronology of the area. Most of the comprehensive research has been done off forest in rockshelters and in open-air sites all south of the Mountain City District. The most pertinent for this area being excavations at the James Creek Rockshelter, Pie Creek and Tule Valley Rockshelters, and in the Little Boulder Basin area east of Carlin. Cultural resource inventories in the Little Boulder Basin area have resulted in recordation of numerous open air prehistoric sites and isolated finds (Schroedl (ed) 1995, Schroedl (ed) 1996, Schroedl & Kenzle 1997, Tipps (ed) 1996). Data recovery was undertaken at some of the more significant sites resulting in the recovery of a considerable amount of data, which can be used to further the knowledge of prehistoric life in the North-Central Great Basin between approximately 6600 years BP to A.D. 1850.

The cultural chronology developed as a result of excavations during the 1980s at the James Creek Rockshelter (Elston and Budy 1990), approximately 45 miles southwest of the southern district boundary, was the most widely used for this area until recently. Between 1999 and 2000 the Bureau of Land Management hired Far Western Anthropological Research Group, Inc. to conduct data recovery and research at the Pie Creek and Tule Valley Rockshelters, approximately 10 miles southeast from the southern most terminus of the district boundary (McGuire at al. 2004). The excavations at Pie Creek Rockshelter revealed intact prehistoric occupations dating from 5600 BP to just before historic contact. Information gathered from the Pie Creek excavations led to an amendment of the James Creek chronology for the Tule Valley and North Fork Humboldt River area. This amended chronology was based on calibrated radiocarbon dates obtained from charcoal found in features in the well-stratified Pie Creek Shelter. Table 2 shows the proposed chronological sequence for the Tule Valley and North Fork Humboldt River area. Table 3 shows the proposed chronology as it compares with the James Creek chronology (Elston and Budy 1990) and central Nevada's Monitor Valley chronology developed by Thomas (1988).

Table 2
Proposed Tule Valley & North fork Humboldt River Area Sequence

Phase	Dates (B.P.)
Eagle Rock	650 - Contact
Maggie Creek	1450 - 650
James Creek	3200 - 1450
South Fork	4500 - 3200
Pie Creek	7000 - 4500
Early Holocene	+7000

*Taken from McGuire et al, 2004

Table 3
Regional Chronological Comparison

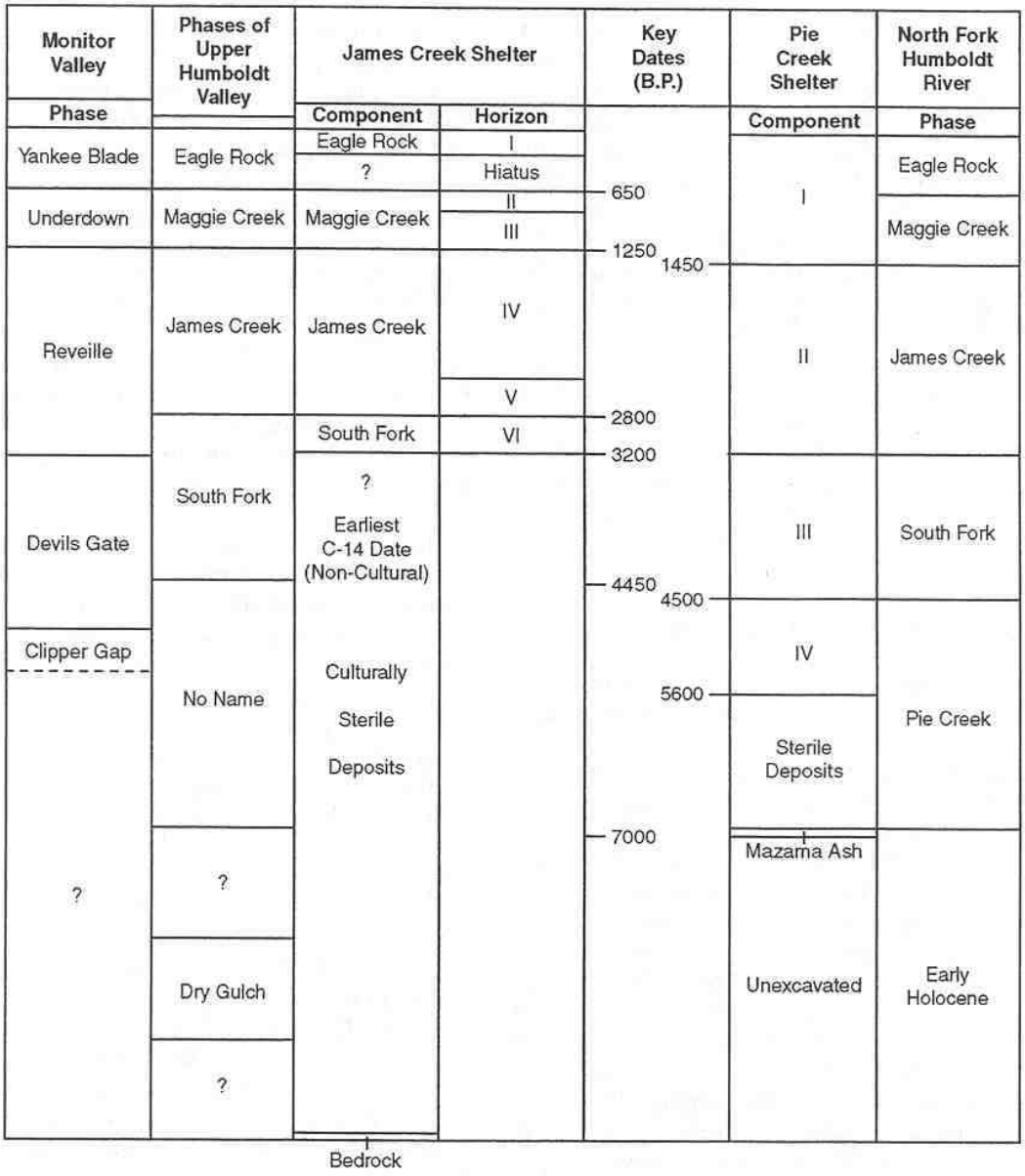


Figure 6. Concordance of Regional Chronological Sequences (Adapted from Elston and Budy 1990:265). Pie Creek and North Fork of the Humboldt River age brackets are derived from calibrated radiocarbon dates.

*Taken from McGuire et al, 2004

PALEOINDIAN PERIOD

The Paleoindian period correlates with the Early Holocene, roughly +7000 years BP. Not much information concerning this time period has been found in this area and thus this cultural period is not well understood. Sites from this time period are most often found along the bottomlands and playa margins of ancient lakeshores such as Lahontan and Bonneville, which lie on either side of the project area (McGuire at al 2004:15). Based on previous research across the Great Basin the Paleoindian archaeological record is defined by various leaf shaped, lanceoloate, fluted and stemmed points dating from approximately 13,000 to 7,000 BP. Two tool complexes have been defined (McGuire et al 2004:15). One is the Clovis or Clovis-like complex that includes small to large fluted and square-based spear points, large bifaces, heavy core tools, backed scrapers, burins, and gravers. The second is a later stemmed point that contains similar items as those listed for the Clovis but the projectile points are slightly shouldered and more similar to the Great Basin Stemmed series. These assemblages reflect a "hunting-oriented foraging pattern that no doubt encompassed a substantial amount of territory" as evidenced by the diversity of source locations representing toolstone materials (McGuire et al, 2004:15).

In the mountainous terrain of Northeastern Nevada early Holocene sites are rarely found. Hockett (1995) has however, found evidence in the form of Great Basin stemmed and split stemmed points made from Browns Bench obsidian in various locations of Northeastern Nevada, including Long Valley to the southeast and northern Independence Valley to the southeast, south of Wells, Nevada. Although R. N. Holmer argues that Early Holocene aged split stemmed points are restricted to the Bonneville Basin in northeastern Nevada, Hockett (1995:50) has a documented split stemmed point as far west as Badger Spring, roughly 30 miles east of the Independence Mountains. Other stemmed points have been found in the Tosawihi quarries west of the Independence Mountains, and Maggie and Susie Creeks north of Carlin, Nevada (McGuire et al, 2004:15). Isolated points, not artifactual assemblages, typically indicate sites of this time period and may well indicate short forays into the region rather than extended stays.

PIE CREEK PHASE (Early Archaic)

The Middle Holocene, dating from approximately 8500±700 to 4000±500 years BP, was a time of warming across the Great Basin. This time period coincides with the Pie Creek Phase of the North Fork Humboldt River cultural chronology. Cultural occupations between 7000 and 4500 years BP are represented mainly in the form of scattered stemmed points or small sites. In northeastern Nevada, few well-dated in situ archaeological assemblages are known prior to 6800 BP (Schroedel,1995:55). The occupation dates of the Pie Creek shelter only date back to 5600 years BP.

Artifacts recovered during excavations at the Pie Creek shelter provide more insight into prehistoric occupations in this area during the Middle Holocene. In central Nevada the archaeological record shows that site locations were abandoned between 5800 to 4600 BP perhaps due to "deteriorating climatic conditions that presumably affected the resource base" (McGuire et al 2004:15). This was apparently not the situation at the Pie Creek shelter where well-watered areas around the North Fork Humboldt River and Pie Creek were perhaps able to sustain occupations. Based on the items recovered from the Pie Creek shelter during this time period there is an indication that this area also suffered from the effects of the warm dry

conditions but people were still able to eke out a living. There is limited evidence of large game hunting and more of a reliance on small game animals, as well as an increase in plant processing. Low flaked stone tools and debitage densities, compared with later occupations, indicates less tool manufacture and maintenance, which in turn indicates less reliance on large game hunting (McGuire et al 2004:124). Bones from bighorn sheep and rabbits were the most common species identified. Small fish bones from mainly suckers and minnows were also recovered.

A comparatively large sample of millingstones and a large sample of charred seeds were recovered from the Pie Creek shelter, indicating an increased reliance on plant resources. However, the large sample of charred seeds essentially represented two main species, wild rye (*Elymus spp*.) and goosefoot (*Chenopodium spp*.), which indicates that the population was targeting easily obtainable seed resources (McGuire et al 2004:124).

Northern Side-notched points are one of the more ubiquitous time markers of this period and are found throughout the area north of the Humboldt River (McGuire et al, 2004:16). They were also recovered at Pie Creek but additional point types were also identified that include Elko series, Gatecliff, Humboldt, Leaf-shaped and a stemmed variant. "Although some of this variation might be explained by depositional mixing, a more likely scenario recognizes the potential dislocations and instability in land use patterns wrought by Middle Holocene warming" (McGuire et al 2004:123). It has been suggested that the need to change land use patterns resulted in increased use of wetland areas with their more reliable resource base. "These wetland refugia may have brought into proximity a variety of groups with geographically diverse origins, as reflected in the introduction of regionally specific point styles (McGuire et al 2004:124). Stone tool materials consisted of obsidian and non-local cherts. Two main obsidian sources were noted: Browns Bench from the northeast and Paradise Valley from the west. Other artifacts indicative of this time period include bifaces, scrapers and a variety of grinding implements.

SOUTH FORK PHASE (Middle Archaic)

The South Fork Phase from approximately 4500 to 3200 years BP coincides with the transition from the Middle to Late Holocene. The Late Holocene time period exhibits an increase in human occupations across the Great Basin, which may be attributed to more favorable climatic conditions. Divisions in the cultural chronology of this time period are reflected in the archaeological deposition of a number of rock shelters in Northeast Nevada: James Creek Shelter, Pie Creek, two South Fork shelters, and Gatecliff Shelter in Central Nevada (McGuire et al, 2004:16-18). This time period reflects a change in subsistence practices from small game and plant gathering to an increase in hunting all types of game from large bighorn sheep (*Ovis Canadensis*) to rabbits (Leporidae) and small mammals such as ground squirrels (*Spermophilus*) and marmot (*Marmota flaviventris*) (McGuire et al, 2004:108). Analysis of the bones from this time period indicate that the larger artiodactyl bones were less intensively processed than those bones from the Pie Creek phase. Fish bones were also recovered from this time period.

Point types represented during this phase are not as varied as in the previous Pie Creek Phase. Gatecliff split-stemmed variants were the dominant point type throughout the time period but other corner-notched dart variants with narrowly defined time spans were also present (McGuire et al, 2004:125). McGuire et al. (2004:125) suggest that this indicates a stability in overall land

use patterns with a "reorganization of subsistence practices toward the taking of large game" as compared to the earlier Pie Creek Phase. This time period also shows an increase in the density of flaked stone tools and debitage, with a large amount of pressure flaking debris indicating tool maintenance and rejuvenation. Tool stone material consisted of non-local obsidian and cherts. Other indicative tool types for this time period are the Humboldt series points that have been documented at other sites in the region (McGuire et al, 2004:127).

Milling equipment and seed remains are also a component of sites during this time period. These tools indicate a continued reliance on plant harvesting and processing and possibly a certain level of residential activity with gender based social groups (McGuire et al, 2004:126). Plants identified in the Pie Creek Shelter include wild rye and goosefoot, as found in the earlier Pie Creek Phase, but small amounts of additional plant remains were also found indicating an increase in the types of plants harvested. These plants include Rush (*Juncus* sp.), saltbush (*Atriplex* sp.) and ricegrass (*Achnatherum hymenoides)* (McGuire et al, 2004:126).

JAMES CREEK PHASE (Late Archaic)

The James Creek Phase dates from approximately 3200 to 1450 years BP. It is a time of continued population growth, logistical hunting and increased artifact diversity coupled with settlement activities. Regionally this time period saw more substantial occupations as recorded at the James Creek and South Fork rockshelters, as well as in the Dry Susie Creek area where open village sites with house structures and more elaborate artifact assemblages were found (McGuire et al, 2004:127).

The most dominant marker for this time period is the Elko series projectile point. A debate exists concerning the temporal use of these points across the Great Basin, specifically whether they fit into a "long" or "short" chronology or, in other words, have differing temporal sequences in the eastern and western Great Basin (For more information on this debate see Hockett 1995; McGuire et al, 2004; Beck 1999). Because the majority of Elko points recovered in the Pie Creek shelter were from the James Creek Phase, with only a few Elko points found in the later deposits, the assemblage supports the "short" chronology (McGuire et al, 2004:62). The fact that some Elko points were found in later deposits may indicate loss of integrity between the two stratigraphic layers or that Elko points were still manufactured after the introduction of the bow and arrow (McGuire et al, 2004:127).

Flaked stone tool and debitage densities continue to increase showing an increased use of the rockshelter and a greater emphasis on percussion biface thinning (McGuire et al, 2004:127). Stone tool material types show a decline in the use of non-local obsidian and chert to an increase in local chert. McGuire et al. (2004:128) indicate that this may be due to a decrease in residential mobility and territoriality while maintaining a logistical hunting strategy.

During the James Creek Phase the procurement of large game animals continues and plant resources become more varied. Artiodactyls, rabbits and small rodents continue to account for the majority of game (McGuire et al, 2004:108). Previously harvested in small amounts, rush, saltbush and ricegrass become major components in the diet. Milling equipment is also present.

In addition to the typical artifact assemblage shell beads are introduced during this time period and are considered a Middle Archaic time marker. At the Pie Creek shelter the entire assemblage of shell beads, two Olivella and one Dentalia bead, was recovered from this component (McGuire et al, 2004:127). Shell and obsidian beads have also been found in Gatecliff shelter in the central subregion as well as at sites in the Lahontan subregion of the Great Basin (Elston 1986:142-143). It is suggested that the presence of beads is evidence of regional trade networks. The Dentalia bead from the Pie Creek shelter may have originated from waters off the coastal Pacific Northwest (McGuire et al, 2004:127).

MAGGIE CREEK PHASE (Late Prehistoric)

The Maggie Creek Phase dates to approximately 1450 to 650 years BP and is indicative of the Late Prehistoric Period and the introduction of the bow and arrow. Occupation of rockshelters during this time increased greatly, particularly so at the James Creek Shelter and the South Fork Shelters. "A complex series of overlapping and intersecting living surfaces and associated hearths" that post date 1300 BP was identified in the James Creek Shelter (McGuire et al, 2004:16). Excavations at the South Fork shelters also showed the same characteristics for this time period as at the James Creek and Pie Creek shelters. Excavations in the late Zone II stratigraphy at the Upper South Fork Shelter showed intense occupation for approximately 400 years between 1630 years BP and 1210 years BP (Spencer et al 1987:81).

Several indicators for this time period have been identified in Northeast Nevada. Typical diagnostic projectile point indicators are the Eastgate and Rose Springs Corner-notched types. At the Upper South Fork Shelter a rock fall divided the Maggie Creek Phase and the James Creek Phase deposits. Above the rock fall, in the Maggie Creek Phase, deposits yielded solely Eastgate projectile points (McGuire et al, 2004:17). Local chert was the preferred tool stone material and the use of obsidian has declined considerably. This was also the case at the Pie Creek Shelter where the use of non-local tool stone materials continued to decline and was replaced with a locally occurring red-yellow-brown opalitic chert (McGuire et al, 2004:129).

In general, densities of various artifact categories increased and perishable items such as modified wood and cordage were recovered during the Maggie Creek Phase. Tool stone material was locally acquired and a shift towards procurement of small game increased. The presence of structural features found in both the James Creek and Pie Creek shelters during this phase "signal more intensive use of the shelter as an extended, multi-seasonal base camp" (McGuire et al, 2004:129).

EAGLE ROCK PHASE (Protohistoric)

The Eagle Rock Phase dates from approximately 650 BP to contact. Most of the diagnostic characteristics of the Maggie Creek Phase are continued into this time period with some differences. At James Creek, Pie Creek and the Upper South Fork Shelters there appears to be a decline in use of the shelters during this phase. The Eagle Rock phase, however, marks the introduction of the Desert Side-notched and Cottonwood projectile points and brownware pottery. There is still a decline in the numbers of large game taken with an increase in small

game being utilized. Local toolstone materials are being used with even less reliance on exotic sources.

At Pie Creek Rockshelter many of the excavated pottery sherds exhibited "signs of burning and sooting and therefore use as cooking vessels" suggesting an expanding range of domestic activities (McGuire et al, 2004:129). During this time period there is an increase in the use of plant resources but a decline in diversity. The use of Wild Rye (*Elymus* sp.) greatly increases during the Maggie Creek and Eagle Rock Phases while the use of other species such as *Juncus* (Rush), *Atriplex* (Saltbush), *Achnatherum* (Ricegrass) and *Poa* (Bluegrass) decline (McGuire et al, 2004:103). Chenopodium (Goosefoot) declines slightly but seems to have been used just as much as in the previous James Creek Phase. Milling equipment is also typical at sites in this time period.

FLORAL AND FAUNAL RESOURCES

Archaeobotanical data from charred seeds found at the Pie Creek Shelter revealed eleven definitive genera of plants utilized. The most prevalent seed types were from the *Chenopodium* sp. (goosefoot) and the cf. *Elymus* sp (wild rye). Both of these plants as well as *Atriplex* (saltbush), and *Juncus* sp (rush), are known Great Basin ethnographic food sources (McGuire et al, 2004:97). Other taxa recovered included *Achnatherum hymenoides* (ricegrass), *Amaranthus* sp. (pigweed), *Phacelia* sp. (Phacelia), *Pinus* sp. (pine nutshell), *Plantago* sp. (plantain), *Pao* sp. (bluegrass), *Rosa* sp. (wildrose), *Scirpus* sp. (tule), *Apiaceae* (carrot family), *Asteraceae* (sunflower family), and *Brassicaceae* (mustard family). All of these taxa are typically found in the archaeological record; however, *Plantago* and *Phacelia* are not documented food sources (McGuire et al, 2004:97).

Many of the above plants had other uses besides food. At the James Creek Shelter matted *Elymus* stems and shredded *Artemisia* bark were used to line occupational features (Thompson 1990:101). *Apocynum* (dogbane) and *Salix* (willow) stems were used in the manufacture of cordage, baskets and other items. At the Pie Creek shelter cordage made from sagebrush bark was recovered. Cordage from the Upper South Fork Shelter was made from various plant materials including *Artemisia, Apocynum*, and *Salix* (Spencer et al 1987).

The faunal assemblage at the Pie Creek Shelter partially paralleled that found in the James Creek Shelter. Artiodactlys and rabbits were the main animal food source identified in both shelters. Of the artiodactlys, bighorn sheep dominated the assemblages with only one deer being identified in either shelter (McGuire et al, 2004:106, Grayson, 1990:93-94). Of the rabbit assemblage, cottontail and pygmy were the dominant species with a small occurrence of jackrabbit in the Pie Creek Shelter. At Deer Creek Cave in the Jarbidge Mountains, northeast of the Mountain City District, the cottontail was the dominant species of rabbit with limited numbers of jackrabbit and pygmy showing up (Shutler and Shutler 1963). Also identified in the assemblage at Pie Creek were muskrat, beaver and river otter. Evidence of these mammals is attributed to the shelter's proximity to the North Fork of the Humboldt River. Even though beavers (*Castor Canadensis*) and muskrat (*Ondatra zibethicus*) are native to the Humboldt River and its tributaries neither were found in large quantities in the James Creek Shelter (Grayson,

1990:90, 92). Faunal analysis at the Deer Creek shelter showed minimal use of aquatic mammal species even though the Jarbidge River and Deer Creek were nearby.

A large quantity of fish remains was recovered at Pie Creek Shelter. This is in contrast to the ethnographic study conducted by Steward in 1938 who suggested that there were no fish in the North Fork of the Humboldt River, therefore Native people did not catch or use fish in that area (Steward 1938:159). Fish bones were recovered from all temporal components identified at the Pie Creek Shelter. Fish taxon included an abundance of Catostomus sp. (various suckers), which made up approximately 60% of the assemblage. Other taxon included Cyprinidae (minnows), *Richardsonius cf. egregious* (Lahontan redside), *Oncorhynchus cf. clarki* (cutthroat trout), *Cottus sp*. (sculpin), Salmonidae (salmon, trout, whitefish) and *Prosopium williamsoni* (mountain whitefish) (McGuire et al, 2004:116-117). In contrast to the large quantity of fish remains recovered at Pie Creek, other rockshelters revealed few specimens. There is no indication that fish bones were recovered from the James Creek Shelter and only six fish bones were recovered from the Upper South Fork Shelter (Spencer et al., 1987:76). At Deer Creek excavations recovered remains from approximately two Chinook salmon (Shutler and Shutler 1963:31). This is surprising since fresh or dried salmon was the chief food source of the Indians in the Columbia River Basin just to the north, and fish biologists suggest that salmon from the basin migrated into the Bruneau and Jarbidge Rivers (Shutler and Shutler 1963:31-32). Additionally native fish were assumed to be in the Jarbidge River historically but there is no indication as to why these fish were not harvested. Steward (1938) does indicate that fishing was an activity pursued by Indians in other rivers and streams of Northeast Nevada.

Besides food products the bones of animal species were used for other purposes. At Pie Creek Shelter 55 pieces of modified bone were recovered (McGuire et al, 2004:88). The majority of these items were classified as beads, bead/tubes or represent debris from bead making activities. Other items included awls, flaker, rib scraper or were indetermined. The species of mammal was not determined for any of the items. At the James Creek Shelter 55 bone artifacts from jackrabbit, cottontail, bobcat, deer and bison as well as unidentified bird species and artiodactyl species were recovered (Schmitt 1990:117). Artifacts included beads and bead making debris, awls, fishing implements, pendants and incised bone possibly for ornamentation.

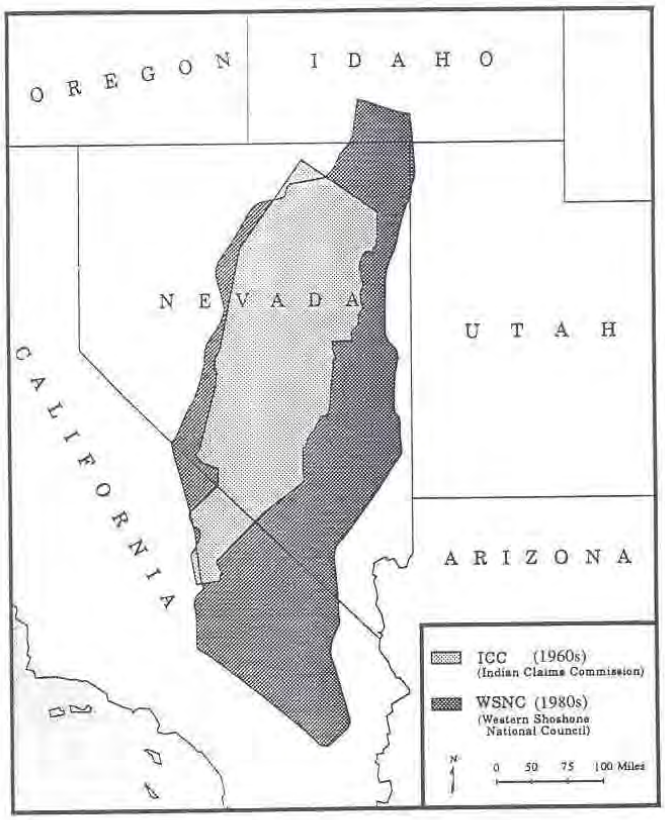
ETHNOGRAPHIC OVERVIEW

The following ethnography is summarized from *The Road on Which We Came, A History of the Western Shoshone,* by Steven J. Crum (1994) unless otherwise noted. Crum's book is a wealth of information concerning the Western Shoshone or Newe people.

This area of Nevada is part of the traditional territory of the Newe or Western Shoshone people according to the Western Shoshone National Council (Figure 7). Their territory extended from southern Idaho in the north to Death Valley in the south, and from the Smith Creek Mountains in central Nevada east to present day Ely, Nevada. They practiced a seasonal subsistence strategy, moving between the highlands and lowlands when specific resources were available. In *Basin-Plateau Aboriginal Sociopolitical Groups,* Julian Steward (1938:141) shows three winter village sites along the North Fork Humboldt River to the southeast and one village along Maggie Creek to the south of the Mountain City District. Steward has identified the east facing slopes of the

Independence Range as being within the subsistence range of the North Fork Humboldt groups. In his narrative of the area Steward states that people occupied most of the area along the North Fork Humboldt River in scattered camps of four to five families and sometimes up to 10 families (Steward 1938:156). People from areas south also entered this country to hunt antelope and small game as well as collect cactus in winter. Steward (1938:155) does not provide much information on the Maggie Creek group except to say that they "seldom reached the river" and held their own local festivals.

Steward (1938:154) groups Western Shoshone settlements into Districts or Villages. For example he has identified the Independence Valley, Carlin and Elko groups as districts. Each district was comprised of several semi permanent camps that certain families considered home and returned to when they could. There were no defined boundaries between districts. In general, people within the various groups traveled into adjoining districts to participate in local hunts or dances.



Aboriginal Western Shoshone Territory

Copied From Crum 1994:3

Figure 8: Aboriginal Western Shoshone Territory

The Great Basin provided a wide variety of resources from which the Newe were able to survive, however, they were in limited quantities. Because of this they did not concentrate in large numbers in any one particular area for any length of time. Their social structure was a small extended family group that inhabited a particular place, usually where their ancestors had lived. Each family group had a name based on a food resource, geographic location or occupation. The extended family was comprised of the nuclear family, grandparents, uncles, aunts and first cousins. Each extended family had a set of rules by which they were governed. "For instance, they forbade the marriage of close relatives, so that first cousins could not marry. Instead, the young people had to find mates outside their extended family group" (Crum 1994:2). This was accomplished during the fall pine nut festivals or through arranged marriages of the parent's choosing.

The Newe led a peaceful life because the extended families lived so far apart in the vast expanses of the Great Basin. There was no competition for land although they did share available resources and hunting and gathering areas. They even maintained a cordial relationship with the Northern Paiute to the west.

Housing styles differed between the winter and summer seasons because of the Newe's hunting and gathering way of life. Because resources were spread over a large area families moved often during the summer to gather what was ripe in a particular area. Summer structures were temporary in nature and were made of branches tied together then covered with leaves and grass for shade. Winter structures were more substantial and built of willow in a conical shape, which was then covered with grass and skins to keep out the wind and snow.

The Newe survived in the Great Basin by eating a wide range of available plant and animal foods. Animal foods included jackrabbit, cottontail rabbit, ground squirrels, ground hogs or woodchucks, sage hen, beaver, antelope and deer. Particular species of animals were hunted during different times of the year. The groundhog and squirrel were hunted during the spring, while sage hens and ducks were hunted during the summer. Deer were hunted in the fall when they were fatter. All parts of the animal were used. The skins were made into clothing and footwear, and the antlers and bones were made into eating utensils and digging instruments.

Two communal hunts were conducted by the Newe, antelope or deer, and rabbit. Antelope were more difficult to capture because they were swift, so a medicine person prayed and asked for power to catch them. After praying, an antelope drive was constructed (Figure 9). These drives were made from sagebrush and could be up to several miles long and wide. The drive was constructed in the shape of a V with a corral at the end. Once the antelope were corralled a few were killed for food and hides. The remaining were let go.

Although no antelope drives have been found in the Mountain City District there is an ethnographic account of a deer hunting episode using a game drive and corral in the Jarbidge District to the northeast. The ethnographic account was written by Kitty

Wilkins, a horse broker from Idaho. In her diary entry of October 20, 1894 she witnessed the deer hunt from a vantage point above the drainage where the game drive was located.

The following excerpt is from Kitty's diary:

> "We heard them yelling in the Big Canyon, far down country, at day break. They steadily pushed deer with dogs up to the big hole and from here upslope onto the big mahogany ridge between the …. Creek and the big canyon. According to Frank C., this ridge is where the women, children, and some dogs had been located, and their presence served to close escape to the north and south along the ridge and it was also their task to drive the deer into the large Mahogany grove above the corral. Next, most of the dogs, boys, and a few young men caught up, dismounted, and entered the trees and pushed the deer into the large corral that was well constructed in the rock slide below.
>
> There were a few shots as the hunters entered the trees, but, as the long line of deer entered the corral there came a massive barrage of about 30-40 shots. Then all was quiet except for the yipping of the exhorbertant [sic] hunters. I am told that three years ago they got about 25 or so deer here, and this years' attainment appears similar. … It is interesting that they let about 15 head or so go free along the west side of the trapping corral.
>
> There are now hundreds of deer and antelope congregating on the flats above the hot springs. … Frank said there was about 38 Indians, total, not counting the scuffy little ones. Usually the children do not come on a hunt (so I am told), . . ." (excerpt copied from Murphey 1980: 4-5)

According to recent observations made at the game drive site, the complex was made from mountain mahogany and pine limbs sticking out of talus rock. Strategically placed stone hunting blinds were also used in the corral area to assist hunters.

The jackrabbit was another important animal that was hunted communally. Rabbit drives that lasted several days were held as part of the pine nut harvest or after it. Men from related extended families gathered to drive the rabbits into long nets and then club what they needed for their winter food supply. Rabbit skins were also used for blankets and clothing.

Figure 9: View of gamedrive on the Jarbidge District. Unknown photographer and date. Photo on file at the Humboldt-Toiyabe Elko Office.

Plant resources were important for food, medicinal and utilitarian purposes. Some of the food plants included chokecherries, yumpa roots and pine nuts. Pine nuts were by far the most important food source for the Newe. The pine nut harvest was a time for social and spiritual gatherings. Pine nuts were harvested communally with prayers, ceremonies and dances held before and after the harvest. The pinyon tree is not abundant in Northeast Nevada but due to the importance of the nut the Newe traveled to central Nevada to harvest nuts where they were more plentiful. Pinyon are not found in the Mountain City District but the closest populations could be found in the Ruby Mountains, the East Humboldt Mountains, the Pequop Mountains and along the Nevada/Utah border (Figure 10).

Plants were also important for medicinal and spiritual purposes. "Oregon grape (*sokoteheyampehe*) was used as an eye medicine; cedar pitch (*waappittan sanappin*) after it was ground to a mash, was used for cuts and wounds; and snakeweed (*kwitawoyampeh*) was used for diarrhea" (Crum 1994:9). Rabbit brush (*tapai sipappin*) was rolled into a tight bundle and burned for spiritual cleansing of a house where someone had died.

Plants also served a utilitarian purpose. Spherical and conical baskets of various sizes, woven primarily from willow branches, were essential for collecting, carrying, and storing items. Flat winnowing baskets were designed to sift seeds and nuts. Cradleboards were also constructed of willow branches and buckskin. Baskets suited the Newe lifestyle because they were lightweight and easy to carry on their seasonal rounds. Pottery was rarely used. Plants were also used to make bow and arrows, and stir sticks.

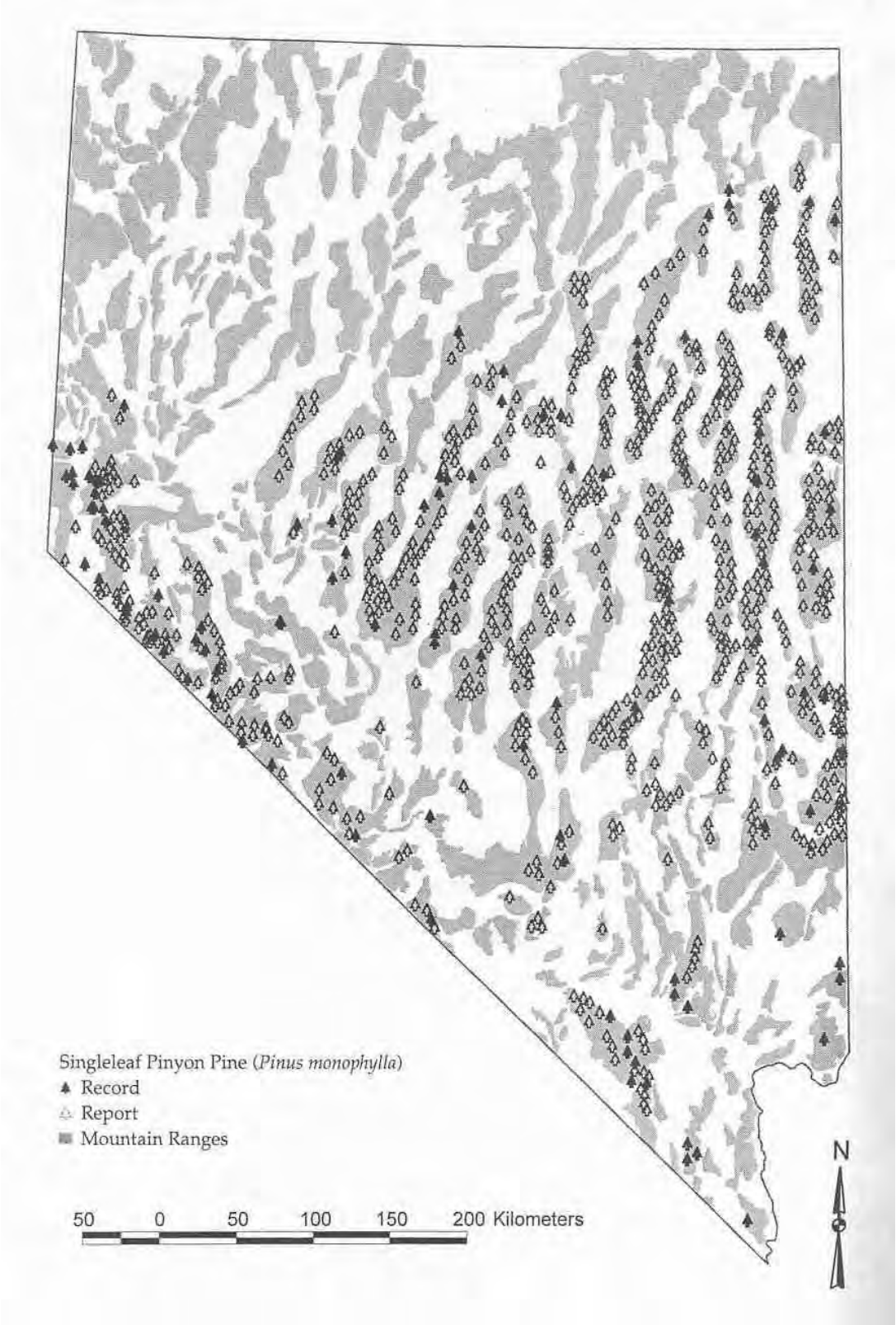


Figure 10: Map of Pinyon locations. Taken from *Atlas of Nevada Conifers,* (Charlet 1996).

Euro-American fur trappers began passing through northeastern Nevada as early as 1827. Peter Skene Ogden located the Humboldt River (called Mary's River at the time) in November of 1828. Ogden and his men impacted the resources that the Western Shoshone people relied on. They wiped out the beaver population, whose skins the Western Shoshone used for winter clothing. Their stock animals ate the late fall/early winter grass seed that the Western Shoshone depended on for food. During the 1840s emigrants passed through the area following the Humboldt River to reach the gold fields in California. Because these emigrants had not mastered hunting antelope they purchased food from the Western Shoshone. In return the Western Shoshone acquired guns and horses from the emigrants helping them to become more effective hunters. Unfortunately, between the heavy grazing that the emigrant's stock did as they passed through the area and the new method of hunting for the Western Shoshone, resources were depleted even quicker.

The ecological consequence of the fur trade was a sufficient impetus to destroy native lifeways, but an economic component to the fur trade that also impacted the Indians was by providing European tools. The knives, axes, guns, and cooking utensils acquired in trade were perceived to be far superior to traditional materials. The economic consequence was dependency on the European market for those goods as well as in allowing or perhaps requiring the Western Shoshone to compete in the depletion of their resources (Crum 1994:14-15).

The Western Shoshone was probably the last American Indian culture to come into continued contact with Anglo European cultures. It was during the 1860s and 1870s that traditional Western Shoshone life was finally controlled by human influences other than their own. It was during these years that the European settlement of northeastern Nevada was secured by the completion of the Transcontinental Railroad in 1869 and the subsequent development of associated towns.

The Elko Indian Wars were but a whimper compared to those elsewhere in the West. After initial skirmishes and battles, the government quickly executed a treaty with the Western Shoshone. The 1863 Treaty of Ruby Valley ostensibly allowed the Western Shoshone to retain their sizeable land base including much of eastern Nevada, while allowing safe passage for travelers, and the development of towns, mines and ranches.

Through the 1870s the majority of the Western Shoshone were both peacefully and forcefully moved to reservations where settlers could find no interest. For example, when settlers placed claims on the Shoshone Indians' fertile Carlin Farms, the Shoshone were removed to the Duck Valley Reservation on the Idaho-Nevada border, along the northwestern boundary of the Mountain City District. Some who did not move to the reservations found employment on the various ranches in the area. The men worked as buckaroos, while their wives often found employment as servants and laundresses. It was at that time that many Western Shoshone people took on the last name of the ranch family they worked for.

A few of the Western Shoshone neither moved to the reservations nor to area ranches. Census records dating from the turn of the century through the 1920s show a Western Shoshone population along the Bruneau River and Meadow Creek Canyon. The Dick, Owyhee, John, and other families probably did not enter reservation life until the 1930s. Their seasonal rounds for plant and animal resources was modified to include horseback and wagon transportation, modern tools, rifles and utensils as well as augmenting subsistence with barter, trade and short stints at area ranches. During the late 1920s and 1930s the Owyhees were invited to winter on various ranches in the Meadow Creek area so their children could attend school. A Nevada law required five children to start a school and the local families did not have enough children, hence the invitation to the children of the Owyhee family (Aalseth 1995:186-187).

The Treaty of Ruby Valley remained in effect until the Indian Claims Commission, in the late 1970s on behalf of the Western Shoshone, extinguished those treaty rights with the acceptance of $26,000,000 for the land lost. While no treaty rights were retained, the Western Shoshone have yet to accept or receive the monetary remuneration and many Western Shoshone people today believe the land belongs to them through the rights of the Treaty.

While treaty rights do not legally exist, the American Indian Religious Freedom Act, the National Historic Preservation Act, Native American Graves Protection and Repatriation Act, National Environmental Policy Act, as well as Executive Order 13084 (1998), and FS Policy and Manual require the Forest Service to consult with Tribes in a government to government relationship in the management of the public lands and in the protection of rights of access to religious sites. To date no religious sites have been identified within the Mountain City District.

HISTORICAL OVERVIEW

EARLY EXPLORATION

Euro-American fur trappers began passing through northeastern Nevada as early as 1827. Peter Skene Ogden, a fur trapper employed by the British-owned Hudson's Bay Company was the first person to briefly enter the northeast corner of Nevada in 1826. In June of that year he trapped beaver from "the headwaters of the East and West forks of the Bruneau River to the Jarbidge River and the South Fork of the Owyhee River, all in Nevada's present northern Elko County" (Patterson et al 1991:72). This trip gave Ogden the distinction of being the second white man to enter the state of Nevada (Father Francisco Garces entered southern Nevada in 1776). Although Ogden's first trip was very short he did spend more time in Northeast Nevada between 1828 and 1830. During this time one of his objectives was to "seek and trap out any fur-bearing streams to the south in order to keep the Americans out of the Pacific Northwest" (Elliot 1987: 36-37). The Hudson's Bay Company depletion of fur-bearing animals from rivers and streams became known as the "scorched earth" policy.

During Ogden's 1828 venture he located the Humboldt River, which he originally named the Unknown River. The river was subsequently called by many names, however, it was most commonly called Ogden's, St. Mary's or Mary's River (Patterson et al 1991:73). The name Humboldt would be assigned by John C. Fremont during the 1840s. The Humboldt River would become a significant travel corridor for emigrants traveling through Nevada. Ogden's explorations took him to the present day Elko area in December of 1828. In April of 1829 he traveled along the Maggie and South Fork of the Owyhee Rivers west of the Independence Mountains.

Between April and July of 1831, Commander of the Snake Country Brigade John Work, Ogden's successor, entered northeast Nevada to trap. He followed along Ogden's previous route from Utah to Nevada until he reached Snowwater Lake in Clover Valley. From here he headed northwest toward Wells where he entered the headwaters of the Humboldt River. From here he trapped along the lower Mary's River and the North Fork River to its headwaters, then along tributaries of the Bruneau and Owyhee Rivers (Patterson et al 1991:74). Work's hunt was relatively unsuccessful and only small parties from the British company were sent to trap in Northeast Nevada for the next 14 years.

The next exploration party to enter Northeastern Nevada was led by Joseph Walker in 1833. Walker, under the direction of Benjamin Louis Eulalie de Bonneville, Captain in the United States Army, traveled west to explore the Great Salt Lake area and secretively enter Mexican territory and travel to the Pacific Coast (Elliot 1987: 38). Walker traveled along the Humboldt River to reach his destination.

A number of other explorers and surveyors traveled through northeast Nevada during the 1840s and subsequent years but it wasn't until the California gold rush that emigrant travel increased considerably throughout northeast Nevada. Most people passing through

the area stayed along the Humboldt River on what became known as the Humboldt-Carson Trail. This route "remained an important artery for westward immigration until the construction of the transcontinental railroad in 1869" (James 1981:219).

EARLY SETTLEMENT

Early settlement in the Mountain City District is coincident with mining and livestock grazing. It is not known whether anyone had settled in the mountains, in what would eventually be known as the Mountain City District of the Humboldt-Toiyabe National Forest, prior to the 1860s. The 1867 discovery of placer gold in Tuscarora, in the Independence Valley southwest of the current Mountain City District, brought droves of miners to Northeast Nevada searching for gold. As is typical with the development of all mining communities other people able to provide supplies, such as food and services, also moved to the area. The town of Tuscarora quickly grew and miners spread out amongst the hills searching for their own gold strike. Many mining districts grew up around the lower slopes of the Independence Mountains (at one time called the Jack Creek Mountains) as well as within the mountains during the late 1800s and continuing into the early 1900s.

The earliest known settler along the western flanks of the Independence Mountains was Jack Harrington. Harrington first came to this area in 1868 but left for White Pine County soon after (Patterson et al 1991:459). He did return to Jack Creek between 1870 and 1886 but then sold his holdings to Frank Culver and moved to Bull Run Creek where he died a few months later. Although he didn't live in the area long, places were named after him. They include the Jack Creek Mountains (now known as the Independence Mountains) Jack's Peak, Harrington Creek, and Jack Creek.

In 1876 teamster Chelsey Woodward settled at the confluence of Jack Creek and Harrington Creek on the west side of the Independence Mountains. As a teamster he hauled supplies between Boise and Winnemucca. While in Paradise Valley he had heard of the community of Cornucopia, just outside the northwestern corner of the Mountain City District, and delivered flour and grain there on two separate occasions (Patterson et all 1991: 459). In 1876, he moved his family to Mill Town on Deep Creek, just a few miles north of Jack Creek but stayed only a few short months before moving and establishing a permanent residence along Jack Creek. Part of the old Woodward property is currently known as the Jack Creek Resort.

Besides the eastern slopes of the Independence Mountains people began to settle in the area now known as Gold Creek. Teamster Crate Rousselle passed through the area, sometime in the early 1860s, and found gold when he stopped to pan in one of the area's creeks (Gold Creek Newspaper February 11, 1897). Perhaps the earliest known inhabitants in the Gold Creek area were Hugh Martin and his family. Reportedly Martin moved his family from the Mountain City area to the Martin Creek area in 1867.

GRAZING

Grazing is a major activity on the Mountain City District and was ultimately responsible for the designation of National Forest lands in the Independence Mountains. The following statement, written in 1894, promotes the resources available for stock raising in Elko County:

> The Mountains and hills are covered with nutritious bunch grass, while on the valleys and benches grows the coarser and stronger rye grass, the seeds of which are as good for feed as grain. Beef, fattened on the bunch grass in the mountains in the summer, are brought down to the rye grass lands in the fall, there they eat the tops of the grass as eagerly and with as good result as though it were corn or oats. A couple of weeks on this food hardens the flesh so that they are shipped to San Francisco, Chicago and even New York with very little loss in weight or quality of the meat. (Taylor et al 1894:np).

The first stock to enter Elko County on a permanent basis was brought in by Mormon Peter Haws in the early 1850s. Haws settled along the Humboldt River where he bartered fresh stock for the westward heading emigrant's travel weary cattle and oxen. Although his stock may have been illegally obtained he was nonetheless able to acquire a surplus and began trading posts and small garden plots at three locations to the north and south of the Humboldt River by 1854 (Patterson et al. 1991:207).

Prior to construction of the transcontinental railroad, stock was brought to Nevada by trail enroute to other areas. Stock was typically grazed in Nevada before moving on to these other states. The advent of the railroad in 1869 meant that ranges could now be stocked by rail instead of trail. Texas cattlemen John Sparks and John Tinnen established the Rancho Grande in the Northeast corner of Nevada. Pedro and Bernardo Altube, Basque cattle ranchers from California, brought in 3,000 head of cattle to Independence Valley near Tuscarora in the early 1870s (Patterson et al 1991:213). Soon ranchers began spreading out from these areas that were easier to access from the railroad to more remote regions of Nevada.

Warren W. Williams, perhaps the largest sheep rancher, began trailing sheep into Elko County by 1880. He eventually worked his way into the Gold Creek and Bruneau River area by the 1890s. By 1902 Gold Creek became his and his half-brother George B. Williams' summer headquarters (Patterson et al.1991:416). "Tellus Farro, a packer for Williams' outfit recalled that during several summers 160 to 180 head of pack mules left Gold Creek with supplies for sheep camps as far east as Pole Creek" on the Jarbidge District of the Humboldt-Toiyabe National Forest (Patterson et al 1991:416). In 1908 Warren and George Williams had permits on the forest reserve to run 60,000 head of sheep. By 1910 Williams owned the largest sheepherding outfit and controlled various properties. In 1910 the Williams' outfit employed Portuguese herders but after a labor conflict Williams' foreman George Baker fired all the Portuguese and hired Basque herders (Patterson et al. 1991:417). Warren Williams died in 1914 and his estate was bought by Walt Whitaker who shifted from sheepherding to cattle ranching. During the

depression of the 1930s George Williams went out of business and Whitaker purchased his holdings as well.

The extreme winter of 1889-1890 was a particularly difficult winter for cattle ranching "in virtually all the states and territories west of the Rockies" (Young & Sparks 2002:132). Elko County was no exception. With temperatures reaching to -60º F at night and a foot or more of snow on the ground, cattle could not find food or water or escape the cold. Some ranches were completely wiped out when cattle froze to death or starved by the thousands. "One herd of 300 broke into a stockyard, and 117 smothered in the crush to reach the hay. Twenty-six cows crowded into a Starr Valley cave to escape the storm; all perished. Horses bunched up to chew each other's manes and tails until all the hair was gone, then died in a group" (Young & Sparks 2002:131). The loss wasn't just of cattle and horses, big game also died. It was reported that one snowdrift east of Elko "revealed five cows, one horse, two mule deer, and one pronghorn huddled together in death" (Young & Sparks 2002:133). The loss of cattle across the American west made it difficult to restock ranches when spring finally emerged.

The winter of 1889-1890 not only impacted ranching but also had a profound impact on rangeland vegetation. The abundant precipitation from the winter months enhanced vegetation growth during the spring. The two previous decades of unlimited grazing had resulted in a severe depletion of plant growth on the range. "Domestic livestock had selectively exploited the perennial grasses, leaving the shrubs to take advantage of the near vacuum in the spring of 1890. Shrub establishment included stands of the desirable browse species bitterbrush, but it also included an overwhelming abundance of toxic big sagebrush and brought about a basic change in the forage resources of the sagebrush/grasslands" (Young & Sparks 2002:135). Pinyon/juniper woodlands also expanded their range with the extra precipitation. They had been previously depleted by early settlement of the area and the increase in mining, both which depended on this woody species for building and heat.

This extreme winter would forever change the way ranching was conducted in the Mountain City District as well as most parts of Nevada and the western United States. It was because of this winter that ranchers saw the need to begin growing their own crops to feed cattle during the cold winter months. Because large outfits could not grow enough feed, smaller outfits became more common. These smaller ranches homesteaded in meadows along major drainages with cattle ranching as their sole means of support. Wilson describes a typical cattle ranch during the early 1900s, "The settlers on the Bruneau River all have from 20 to 100 head which they run on the reserve throughout the entire year, merely feeding some of the cows and young stuff for three or four months in the winter" (Wilson 1906:17).

This change in cattle ranching also affected sheep grazing practices in much of the state. "The reduction in cattle from the losses of the winter of 1889 left much of the range unused. Transient sheep outfits came into the area to use the free range. Large sheep outfits would trail sheep south in the spring and back north over the same land in the fall.

Homestead rights were not observed and range wars were common. The range was overused and the situation was rapidly becoming critical" ("71" Livestock Association p.1).

Although there were legitimate sheep ranchers in the area many were considered "tramp outfits" coming from other locations with no legal land base in Elko County. The local ranchers protested these herders' untaxed, free use of government land, as well as their overgrazing practices. A number of these "tramp" sheep outfits filed false placer mining claims on the range in order to control grazing areas and particularly water sources (Wilson 1906:28). Another practice was to set fire in the fall to timber and brush to promote revegetation into grasses thereby increasing the feed area for the next season (Wilson 1906:26). With at least half a million sheep, 30,000 cows, and thousands of horses grazing in northeastern Nevada, livestock, particularly sheep, came off the range at the end of the season in very poor condition, some weighing only 30 pounds.

Syd Tremewan, (future Humboldt National Forest Supervisor) moved to the Bruneau area in 1900. He recalls that grazing was good then but those conditions did not last long. "The sheep began to crowd further and further north and increase in numbers until it was getting tight grazing over there again. And this is what caused us to begin to look for some method of protection and caused me to start thinking about the Forest Service" (Tremewan 1966:3).

It was Tremewan's interest in preserving the range for cattle that initiated the forest reserves in the Mountain City area. After hearing about ranchers in Ruby Valley petitioning to become part of the Forest Reserve System, Tremewan was convinced that that is what was needed in northern Elko County. Tremewan, with the assistance of Frank H. Winter, a Nevada Legislature Assemblyman, petitioned a significant number of stockmen from northern Elko County to establish a forest reserve to protect cattle interests. Tremewan states "I won't say that we had all of the stockmen that were using the Forest, because a great number of the stockmen up there were sheepmen, who had their ranches in the southern part of the state, and used the northern part of Elko County as their summer grazing land. They were tromping the range to an extent that we had to do something" (Tremewan 1966:3).

There was opposition to the Forest Service on a local level, mainly from sheepherders, but with sheep coming off the range weighing only 30 pounds at the end of the season, with tempers flaring, and with at least one shooting, the fear of range wars was enough to gather the necessary support. Wilson (1906:18) comments "About 15,000 cattle and horses, all told, will be affected by the proposed reserve and no distinction should be made between those using the range only in summer and those using it the year round. This is a high number of cattle and horses but not anywhere near what the range is capable of supporting if it were not for the sheep."

A petition requesting creation of a Forest Reserve in the Independence Mountains was filed and the Independence Forest Reserve was designated on November 5, 1905.

Subsequently a petition was made to include the Bruneau area, which included the Jarbidge Canyon to the east. The land was withdrawn in 1905 for this addition, however the addition was not approved right away. In 1906 Forest Assistant R. B. Wilson wrote a recommendation report for the Bruneau addition, which was subsequently denied by Chief Forester Gifford Pinchot on February 14, 1908 on the grounds that it was mainly a grazing proposition (Memorandum dated February 14, 1908). This started a flurry of letters to Gifford Pinchot from various entities stating why the addition should be approved. Letters were written by local ranchers, Syd Tremewan (Humboldt National Forest Supervisor), C. N. Woods (Acting Forest Supervisor of the Independence National Forest), Nevada Senator Francis G. Newlands and Nevada Assemblyman Frank H. Winter requesting that the Bruneau Addition be approved. In 1908, Forest Ranger George C. Thompson, from Salt Lake City, Utah, wrote another report expanding on Wilson's stating reasons that the Bruneau area should be added (Thompson 1908). The Bruneau Addition was finally approved and added to the Humboldt National Forest[4] on January 20, 1909.

Livestock use from 1919 until 1930 in the project vicinity was predominately sheep. In 1930 cattle grazing was permitted and dominated until 1937 when the area was divided into both cattle and sheep grazing allotments. The Taylor Grazing Act of 1934 changed the sheep industry by regulating sheep grazing on public lands. The intent of the Act was to reduce impacts to public lands from overgrazing, provide for grazing developments and control the number of livestock grazed on public lands. The Act reigned in the tramp sheepherders by controlling the number of sheep that could be grazed, which forced stockmen to reduce their herds.

Although historic GLO maps do not show any specific sheep or cattle ranching features existing in the late 1800s or very early 1900s, they do show numerous corrals and some agricultural fields, presumably associated with ranching. Historic evidence of sheep ranching has been found on the landscape, mainly in the form of carved aspen trees. The carvings are mainly attributed to the Basque culture but other Hispanic cultures, namely Mexican and Peruvian, also left their mark on trees. A large number of Basques began to enter northeastern Nevada from the early 1900's to the mid 1970's. They came from near the border of Spain and France near the southeast corner of the Bay of Biscay (Douglass & Bilbao 1975: 12). Many of these men were drawn to the area for economic opportunities. The land they left in Spain was similar to that found in Elko County and a number of both cattle and sheep ranches were hiring sheepherders. It was found that a cattle-sheep operation utilized the range more efficiently with cattle grazing the valleys and sheep grazing the higher elevations (Patterson et al 1991:279). Employers would often offer sheep to the immigrating Basques as part of their pay; furthermore, they would let them graze their small herd with the rest of the sheep (Patterson et al 1991:298). Eventually, many of these Basque sheepherders were able to purchase lands and run their own operations.

[4] By Executive Order 908, the Independence and Ruby Forest Reserves were consolidated on July 1, 1908 under the name Humboldt National Forest.

Some of the earliest Basque-run operations were located in or near the Independence Mountains. At the turn of the century, a Basque community began to develop within the Jack Creek area. Men such as Andres Inchausti and Feliz Plaza of the Jack Creek Ranch, and Balbino Achabal, who later would purchase Jack Harrington's ranch, were among the first settlers to seriously run livestock in the area (Patterson 1991: 299). Plaza ran a store at Jack Creek that was popular with the Basques and the Euro American ranchers (Patterson 1991: 299). Just south of Jack Creek is Snow Canyon where John and Joe Saval set up their headquarters for a sheep operation (Patterson 1991: 300). On the southeast side of the Independence Mountains Guy Saval, brother of John and Joe purchased land on Gance Creek and ran sheep and cattle from there.

Basque settled in other areas of the Mountain City District as well. Pedro Olabarria and Joe Madariaga bought a place near Rowland and ran their sheep in Martin Canyon during the summers, and lambed in Pie Creek (Patterson 1991: 300). In the Charleston area Pedro Itcaina ran sheep from 1910 to 1958 between the Jarbidge Mountains and the Gold Creek area (Patterson 1991: 300-301). Sometime in the early 1900s Frank Gedney and Faustina Alsola began the Bruneau Sheep Company with its headquarters in Idaho. Their company had extensive range permits on the Humbolt-Toiyabe National Forest in the Mountain City area and they ran their sheep along the Bruneau River, Sheep Creek and Cat Creek in northern Elko County during the summers (Patterson 1991: 331). In the early 1940s they purchased Yankeeville Summit (Merritt Mountain) and their flocks summered there.

Vestiges of this infiltration of Basque culture into the area are still present. Several ranches originally started by these Basque sheepherders are still in operation. Although their homesteads are located just outside the Forest boundary they continue to use Forest lands for grazing. Some of the earlier settled ranch locations are now on Forest Service land and are archaeological sites. Both sheep and cattle are still grazed in the area, although cattle grazing dominates. Currently there are 51 grazing allotments on the district, 31 cattle and horse, 17 sheep and goat and 3 common use allotments. As of this writing two sheep and goat and one cattle and horse allotments are vacant.

MINING DISTRICTS

Besides grazing, mineral exploration and mining have been the principal use of the land in the Mountain City District. Ten mining districts were established across the district with the hopes of finding large quantities of gold and silver (Figure 11). Both placer mining and lode mining were practiced in many of the districts. Although gold and silver were the most predominant minerals found and the focus of much of the mineral exploration activity, other minerals were also produced. These included antimony, copper, gold, lead, mercury, silver, tungsten, and zinc (LaPointe et al. 1991:12-23). Antimony was found at numerous mines on the Mountain city District and was considered a major producer (LaPointe et al. 1991: 10). The only non-metallic resource mined was barite, which was found in the southern Independence Mountains.

Figure 11: Map of Mining Districts in Elko County. Map copied from LaPointe, Tingley and Jones, 1991.

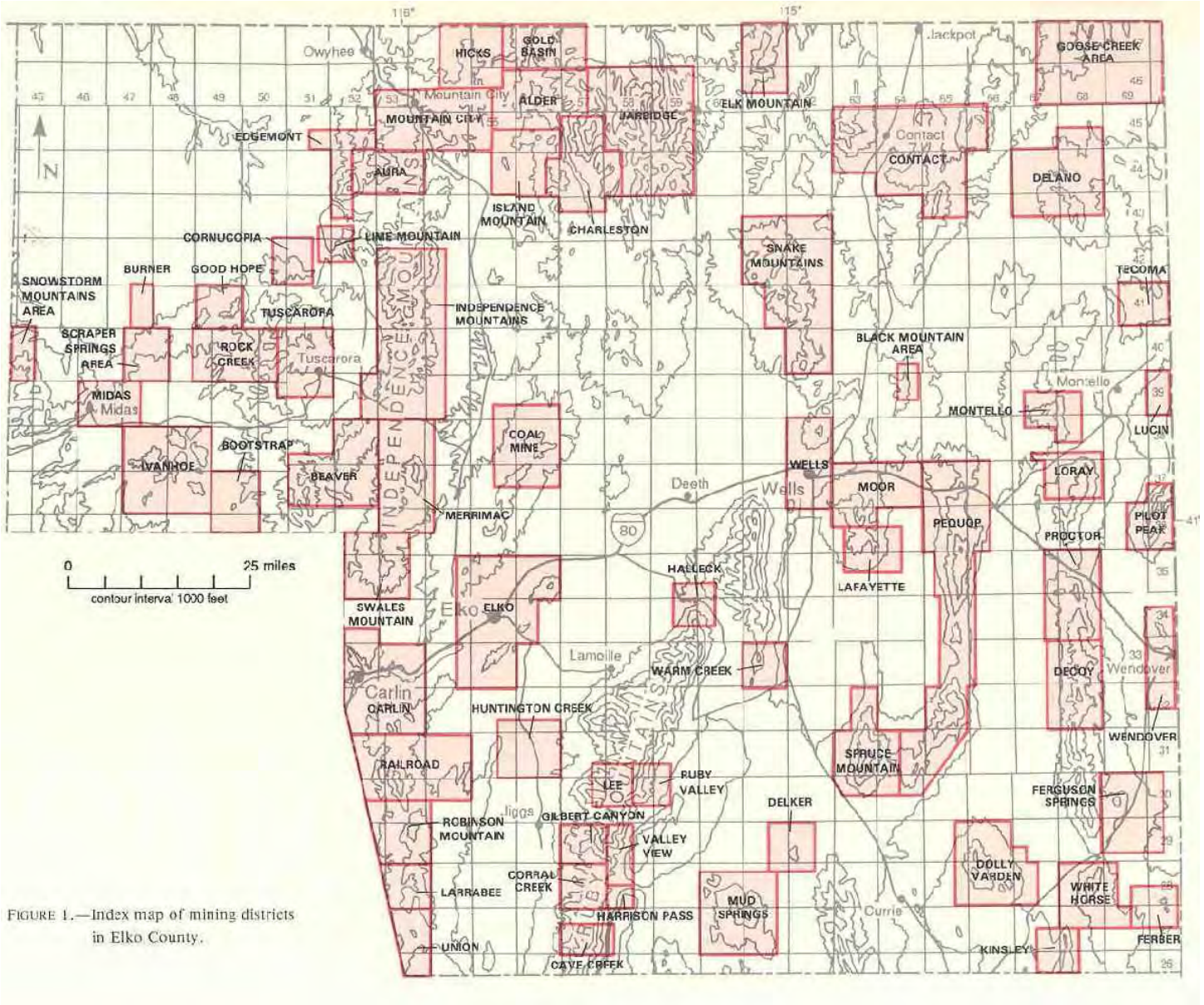


FIGURE 1.—Index map of mining districts in Elko County.

The first placer gold deposits found in the region were found west of the southern Independence Mountains in McCann Creek in 1867 (LaPointe et al. 1991: 211). Placer mining continued for a few years but it wasn't until 1871, when W. O. Weed discovered silver ore on the southeastern slope of Mount Blitzen and established the Young American claim that mining began in earnest (Hall 1998: 67). Within a few years the bustling mining community of Tuscarora was born. In 1870 Tuscarora had a population of 119, but by 1877 that number had increased to 3,000 making it almost as large as Elko at the time (Hall 1998: 69). Mineral production exceeded $1 million between 1878 and 1879 but declined to less than $152,000 in 1881 (LaPointe et al. 1991: 211). Many references concerning the townsite of Tuscarora and mineral exploration and mining in the Tuscarora Mining District have been written. Because that mining district is not within the Mountain City Ranger District it will not be further discussed, however, finding placer gold deposits in the Tuscarora area had a huge impact on resources found in the Independence and Bull Run Mountains. Finding placer deposits in the area spurred additional mineral explorations along the western slopes of the Independence Mountains, which in turn spurred exploitation of wood and water from the mountains and fostered the establishment of ranching in the area.

Aura Mining District

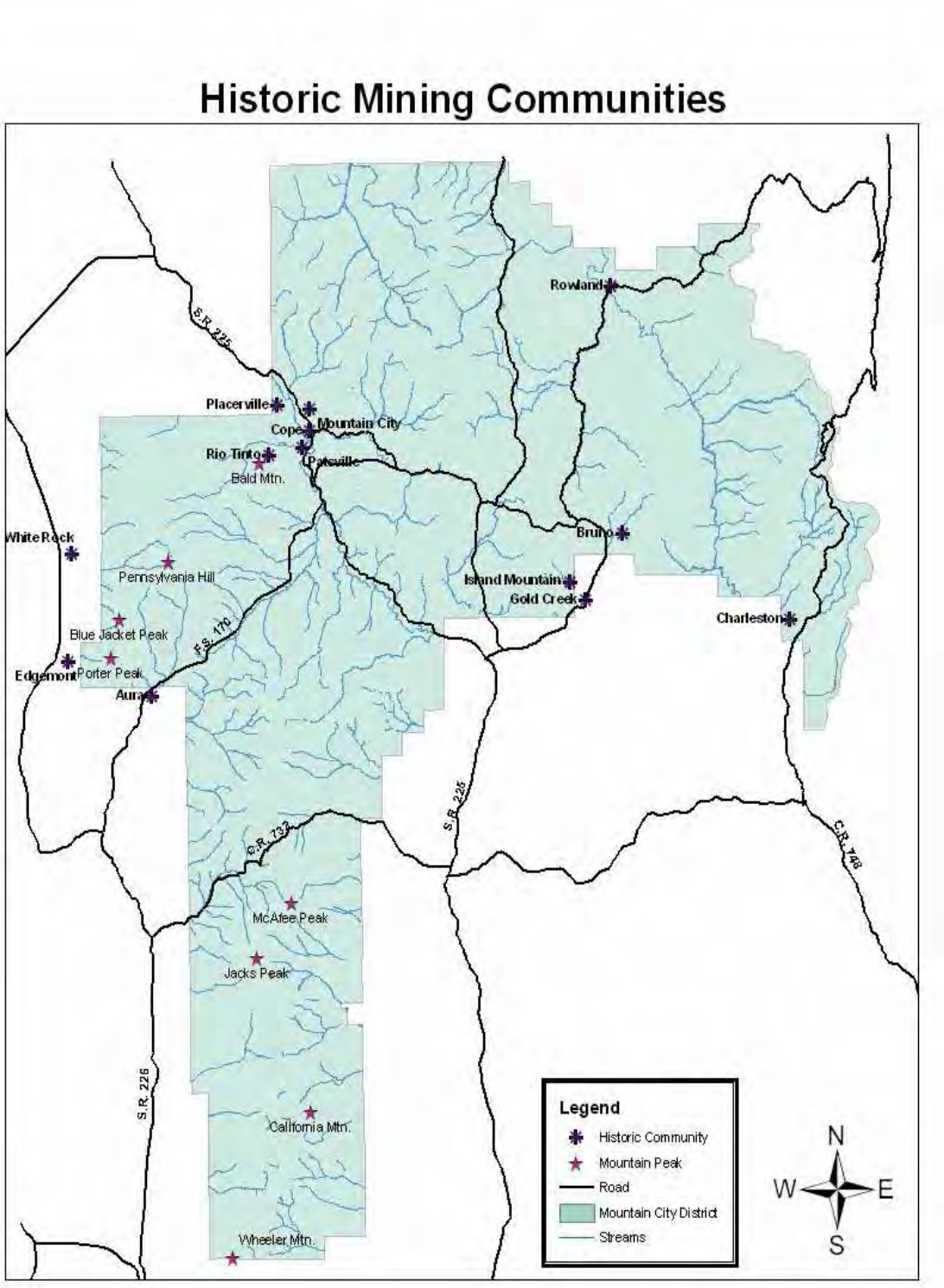
Mineral deposits were first discovered in 1867 in the east and southeastern slopes of the Bull Run Mountains in what would become the Aura Mining District[5]. The Aura Mining District was also known by numerous other names that included Bull Run, White Rock, Centennial, Columbia, and Blue Jacket[6]. Jesse Cope and party who were passing through the area in 1869 found the first major deposits in Blue Jacket Canyon (Emmons 1910:69). Their discovery led to the organization of the Bull Run Mining District that same year (Lincoln 1923:38). At about the same time, gold and silver were discovered in nearby Columbia Creek resulting in the establishment of the town of Columbia (Lapointe et al 1991:30). According to a Nevada State Mineralogist report from 1869-1870 ore from two mines within the district assayed at $4,000 or more to the ton (Granger et al 1957:27).

By 1871 ten producing mines were in the Aura district and a 20-stamp mill had been erected in Blue Jacket Canyon (Lincoln 1923:38). Some of the larger producing mines included the Infidel Mine, Big Four Mine, Columbia Queen/Bonanza Mine and the Blue Jacket Mine (Emmons 1910:71-72). Placer mining continued in Blue Jacket Creek, California Gulch, Columbia Creek and Bull Run Basin, which resulted in an additional custom mill being constructed by Edward Stokes in 1875 at Columbia (Lincoln 1923:38). Unfortunately the rich ores gave out and by the early 1880s the mining camp of

[5] A later map of the area based on E. C. McClellan's 1894 map (Originally produced in Taylor et al 1894) shows the Bull Run Mountains as being the Centennial Range (Emmons 1910: 72A). Although there is no specific date on the map it obviously predates 1910 and shows the communities of White Rock, Edgemont, Aura, Columbia, Jackson and Mountain City.

[6] The Centennial District is considered an alternate name associated with the Edgemont Mining District in Lincoln 1923 and Granger et al 1957. Early 1900s GLO maps use the Bull Run and Centennial Mining District names interchangeably (T44N, R52E 1904 GLO, T44N, R52E 1901 GLO). The Edgemont District is adjacent to the west of the Aura District.

Figure 12 - Map of Historic Mining Communities



Columbia dwindled. Although no exact production costs are know for the district it has been suggested that 20,000 tons of ore was produced between 1869 and 1879 with an estimated value of $5,000,000 (Granger et al 1957:28).

A brief but unsuccessful revival in the Aura District was prompted by gold discoveries in the 1890s in what became the adjacent Edgemont District (Lapoint et al 1991:30). In 1905 placer gold was again rediscovered in the Aura district resulting in the construction of an extensive system of ditches, flumes and pipelines in order to facilitate hydraulic placer mining of the gravels in the Bull Run Basin (Lapoint et al 1991:30). By 1906 the mining community of Aura was established approximately 1.5 miles south of Columbia. However, by 1907 placer mining had ceased do to lack of productivity. Occasional placer mining took place until the 1930s but has not been conducted since (Lapoint et al 1991:30).

Silver and gold lode mining, on the other hand, was relatively productive in the following years with some mining activity taking place in the 1930s, 1940s and then in the 1980s (Lapoint et al 1991:30). The Aura District was considered the second most productive silver camp in Elko County through 1949 and the fourth most productive gold camp through that same period (Granger et al 1957:23). Most recently the Wood Gulch Mine has been the district's largest producer yielding approximately 49,000 ounces of gold and 200,000 ounces of silver between 1988 and 1989 (Lapoint et al 1991:30).

Edgemont Mining District

The Edgemont Mining District was discovered on the east slope of the Bull Run Mountains in the 1890s, about 30 years after the Aura District. This district lies on the west and northwest slopes of the Bull Run Mountains and encompassed an area from the Bull Run Reservoir north to Silver Creek. The major years of gold and silver production were from 1900 to 1909 (Lapointe et al 1991: 86). One of the most productive operations was the Lucky Girl group owned by the Montana Gold Mining Company. In 1898 the Lucky Girl claims were purchased by Alexander Burrell (Emmons 1910:75). In 1902 a 20-stamp mill and cyanidation plants were erected to process approximately sixty tons of ore a day using a 3,600 foot long tram system from the mines (Emmons 1910:75). The mill employed seventy-five men and ran on electricity from a power plant located along White Rock Creek (Hall 1998:30). By 1908 Emmons (1910:75) claims the mines along the Lucky Boy vein and the Bull Run Mine had yielded approximately $1,000,000 worth of ore consisting of mainly gold. Avalanches in 1904 and 1906 destroyed parts of the mill, which were rebuilt (Hall 1998:31). In 1909 disputes over ownership of the Lucky Girl Mine forced the mine to close.

In 1901 the town of Edgemont was established. A post office opened in October of that year and the population rose to 150 (Hall 1998:30). Edgemont retained its population until 1915 when all hopes of the Lucky Girl Mine reopening were given up. The town's population declined and the school moved to the Mitchum Ranch in the valley below. In

1917 another avalanche damaged the mill and destroyed many of the buildings in Edgemont. The post office closed on October 15, 1918.

Between 1930 and the early 1970s lead was the major commodity produced in the Edgemont District, with lesser amounts of gold and silver, and even less copper, zinc, and tungsten (Lapointe et al 1991:86). Lapointe et al (1991:86) also show that Edgemont District production records in the 1960s was limited to the year 1964 when 200 pounds of lead and 29 ounces of silver were recovered. However, they do not state which mines the ore was collected from. The most recent mineral activity was in 1981 when Duck Valley Ltd. conducted small-scale silver and lead mining in the vicinity of the Nevada Mine. More recently small-scale exploration projects have taken place in various places within the district. As of 1989 no active mines were reported.

Mountain City Mining District

Jesse Cope found silver and gold lode deposits in 1869 in what is now called the Mountain City Mining District, (Lapointe et al 1991:171, Lincoln 1923:52). The district is located in north-central Elko County and is bounded on the west by the Duck Valley Indian Reservation, on the southwest by the Aura District and on the northeast by the Hicks District. The district was originally called the Cope District after Jesse Cope but was later changed to the Mountain City Mining District, which includes the previously identified Cope, Murray, Fairweather, Sooner, Marseilles and Van Duzer Districts.

> Shortly after the discovery of gold the mining community of Cope[7] was founded. By the summer of 1870 the town's population had reached 1,000 and had one mill in operation, the Drews & Atcheson 10-stamp reduction mill, with two additional mills under construction (Lincoln 1923:52, Patterson et al 1991:640).

W. J. Hill, Editor of the *Owyhee Avalanche* in 1870 visited the Cope area in August of that year and provides a wonderful description of Cope with additional information concerning mining in the area (Hill 1870, Transcribed). Hill described Cope as having 130 buildings, half of which were canvas tents, and a population of 600. Hill's report also described the various establishments and services that were provided in Cope, such as 20 saloons, nine stores, two rooming houses, two bakeries, two breweries, one stationary store and one fruit store to name a few. Hill also mentions a lumber mill that was obtaining its white fir lumber and cottonwood firewood from the Hooker & McFee sawmill located along Trail Creek approximately eight miles to the west of Cope in the Independence Mountains.

In addition, Hill (Hill 1870, Transcribed) portrays the state of mining in the area with the following:

[7] The community of Cope was actually located about one mile south of the present location of Mountain City where an Idaho Power Company substation now stands (Patterson et al 1991:639).

> The mines are located in the immediate vicinity of town, on both sides of the river. As far as surface indications go the quartz veins of Cope will compare favorably with any other mining camp we ever saw, but none of the ledges have yet been worked to a sufficient depth to establish their permanency beyond a doubt. The ore is principally silver and remarkably free of the baser metals. A claim consists of 200 feet, upon which two days work must be done within 60 days after location and two days before the expiration of the year. The principal ledges are from a foot and a half to four feet in width, and approach a horizontal position, many of them an angle of 40 degrees. At present there are only about 20 men at work taking out ore, but many more will be employed as soon as the two new mills are ready to operate. The Columbia Company have struct the eastern extension of the Argenta, 1400 feet from the discovery shaft, demonstrating the fact that ledges of Cope have some length as well as width and depth. John A. Lytle and Company have traced the Nevada ledge down the side of California hill and are running in a tunnel on the vein, which is said to be large and rich. Cutler and Co. are sinking on the Crown Point, opposite Dye's store in Placerville, and are taking out some fine looking ore. The Argenta and Crescent have been worked some distance below the water level and show black sulfurets in abundance. The Buckeye owned by Cope and company shows a large and well defined ledge on the surface, but has not been worked to any depth. The Monitor, situated near the Crescent, is one of the most promising ledges in camp. It is five feet wide and will probably yield $50 to $60 per ton. Our limited space forbids the mentioning of many other ledges which prospect well and will doubtless prove as rich as any that have hitherto been worked. The mines are easier worked than here; a three foot hole can be put in with four drills.

Hill's report also mentioned the small community of Placerville that was one-half mile north of Cope, which later became the location of Mountain City. His report mentions the community as having one store, a blacksmith shop and several family residences. Although not much is known about Placerville, prior to it becoming consumed by the larger community of Mountain City by 1880, it is known that a small population of predominately Chinese miners lived approximately ¼ mile northwest of the present location of Mountain City along Hansen Gulch. According to census records 160 residents, 124 of them being Chinese men resided in Placerville (June 13, 1870 Census Records).

Just a few months after Hill's visit to Cope mining began to slow down and people began leaving the area. An article in the *Elko Independent* newspaper on November 26, 1870 mentions a considerable decrease in population for the Cope Camp, to about 150 people even though three mills were still running; the Norton, Vance and Drew. On November 27, 1870 the *Elko Chronicle* expounds on the *Elko Independent* article by saying:

> "All three mills in operation. Vance Mill is crushing rock from the Blue Jacket and some rock from Bull Run & Bruno. Mill performs well and gives promise. Norton's Mill crushing rock from the Belle of the West but will soon crush 200 tons of Excelsior lode for Argenti Co. Drew and Co.'s mill is running on the Idaho. Spiritual ledge continues to show rich rock…. Cope shows signs of great success if they can survive the winter."

The Cope Mining District did survive the winter of 1870 and mining continued until 1882. Emmons (1910:80) states that three small silver amalgamation mills recovered $1,000,000 in silver prior to 1881. Prospecting continued from 1881 on but production was minimal. Lapoint et al (1991:172) show that between the years of 1869 and 1901 the only mineral produced was 2,700 ounces of placer gold. When Emmons (1910:80) visited the camp in the summer of 1908 none of the three mills were in operation.

After a brief decline in silver production new mines were opened in the area that is currently the townsite of Mountain City. By 1880 the mines were producing $600,000 worth of silver ore and the camp at Cope had largely relocated to this new location (Patterson 1991: 641). In only a few short years production again declined and between 1882 and 1904 there was little to no silver produced and the camp dwindled to "16 whites and four Chinese" (Patterson 1991: 641). Many of the structures were torn down or hauled away from both the older Cope camp and the more recent Mountain City camp. A brief revival came between 1904 and 1907, but with little production the camp finally ended. It wasn't until the 1930s that the camp was once again revived due to a rich copper strike at the Rio Tinto Mine (discussed in more detail below). The town of Mountain City continues to survive as a small community located along the Mountain City Highway between Elko and Idaho.

In addition to the mines surrounding the communities of Cope and Mountain City an additional placer area approximately 6 miles to the southwest along Van Duzer Creek was developed. The Van Duzer Mining District is often considered part of the Mountain City Mining District; therefore it will be briefly discussed here. The placer deposits were discovered in 1893 by Rutley M. Woodward along Van Duzer and Cobb Creek and were worked until 1908 (Emmons 1910:84). Emmons (1910:84) states "Two hydraulic plants with 10-inch pipe and monitors are installed along the stream about three-fourths of a mile apart. The depth of work is nearly everywhere less than 15 feet." Approximately $50,000 of placer gold was processed prior to 1908 (Lapointe et al 1991: 171). There was renewed interest in the placer deposits in the 1940s. The Morrison-Knudsen Company and other operators began a dredging operation along several miles of the creek and recovered a few thousand ounces of gold (Lapointe et al 1991:171).

In 1920 S. Frank Hunt, characterized as a courageous, persistent, lame prospector-geologist, moved to the Cope Mining District to search for minerals (Patterson et al 1991:642). He focused his attention on a rock outcrop about three miles southwest of Mountain City, thinking that a large copper ore body lay underneath the outcrop. He named his claim Rio Tinto. Hunt spent eleven years attempting to generate interest and capital in his claim. It wasn't until 1931 that Hunt finally found a willing partner in Ogden C. Chase from Salt Lake City and the Rio Tinto Mining Company was formed (Patterson et al 1991:642). Using money generated from selling stock Hunt and his crew began digging a shaft to reach the ore body. At the time, two log cabins and a tent made up the town of Rio Tinto. In February 1932 a large copper ore body was reached that assayed to 47 percent pure copper (Patterson et al 1991:643).

This new find generated a renewed interest in the area and people flocked back to the Mountain City region. Three separate camps sprang up: at Mountain City, at the Rio Tinto Mine, and at what became known as Patsville, approximately one mile east of Rio Tinto (Patterson et al 1991:643). "On June 30, 1932, the International Smelting and Refining Company purchased controlling interest in the Rio Tinto Mine, and changed the corporation's name to Mountain City Copper Company" (Patterson et al 1991:643). The International Smelting and Refining Company was serious about their commitment to the Rio Tinto Mine and developed a company town near the mine with apartments, duplexes, cottages, schools, a hospital, a movie theater and a community center (Patterson et al 1991:643). The town was well laid out with tree-lined streets, well-tended lawns and flowers. Electricity was brought in from Jarbidge by the Idaho Power Company and Bell telephone constructed a communications line to Rio Tinto from Idaho. A large flotation mill was constructed in 1937 (Basanez 1979:104).

Figure 13. Mountain City in foreground, Rio Tinto in background, upper left. 1934. Unknown Photographer.

Patsville, on the other hand, remained a small community named after Pat Maloney. Maloney and Marge Clark ran a sporting house and dance hall in Patsville (Hall 1998:132). Other services included a drugstore, service station and garage, a boarding house, saloons and a red light district. The population of Patsville reached to about fifty individuals at its height. In May 1937 the entire town of Patsville was sold to William Doyle for $15,000 (Hall 1998:133).

The Rio Tinto Mine prospered and the ore was trucked out of state to the Union Pacific in Mountain Home, Idaho since there was no direct route from the Mountain City area to the Southern Pacific railroad in Elko (Patterson et al 1991:644). The only roads at the time were through mountainous terrain that accessed Tuscarora or the Sunflower Flat Reservoir and Gold Creek then over to Wildhorse and finally to Elko along the "Old Cope Road"[8]. In response to this the Nevada Department of Highways began construction on a new road connecting Elko with Mountain City. The new road was constructed to the east of the "Old Cope Road" until it reached the Wildhorse area where it veered northwesterly and through the Owyhee Canyon up to Mountain City. The road was completed in 1939-1940 and allowed transport of ore to the Southern Pacific in Elko (Patterson et al 1991:644).

The Rio Tinto Mine continued producing ore until 1947 when it finally closed. Between 1931 and 1947 the mine reportedly "yielded 1,109,878 tons of ore averaging 9.7% copper, 0.3 ounces of silver and 0.006 ounces of gold per ton" making it the highest yielding copper ore mine in the Untied States at the time it was in operation (Lapointe et al 1991:171). The closing of the mine was also the end of the Rio Tinto and Patsville townsites. The last store in Patsville closed in 1947 leaving behind a number of structures that are currently being reclaimed into the earth (Hall 1998:133). After 1949 many of the structures in Rio Tinto were moved to other communities such as Mountain City, Elko, and Carlin (Basanez 1979:106). In the early 1970s Cliff's Copper Corporation of Rifle, Colorado purchased the mine and attempted to leach additional copper from the old workings as well as continue some of the underground workings (Basanez 1979:106, Lapointe et al 1991:171). The company was unsuccessful and by 1975 they closed down their operations and sold the mine to Cominco, a Canadian company that never attempted any mineral extraction. In 1979 the Loveland Construction Company of Idaho Falls, Idaho tore the old mill down (Basanez 1979:106).

Additional mining in the Mountain City District has been sporadic through the years. Uranium was discovered in the California Basin east of Mountain City in 1954 and at least eleven prospects had been located as of 1959 (Lapointe et al 1991:171). Uranium exploration continued into the early 1970s with the largest producing mine being the Race Track, which produced nearly 10,000 pounds (Lapointe et al 1991:171). Some limited silver mining occurred west of Mountain City at the Silver King Mine during the early 1980s.

Alder Mining District

The Alder Mining District, also known as the Tennessee Mountain or Tennessee Gulch Mining Districts, was organized in 1870. The District is located in the north-central portion of Elko County approximately 70 miles north of Elko. Most of the mining

[8] The "Old Cope Road" is shown on various GLO maps dating to 1871. The road went from Elko north along the eastern side of the Independence Mountains to the area now known as Wildhorse, where it veered northeasterly towards the Gold Creek area. The road then veered north and circled around to the west to Mountain city.

activity occurred north and northeast of Tennessee Mountain. The first mineral discoveries were of gold veins found along Young American Creek in 1869 (LaPointe et al 1991:25). Although early activity predominately focused on placer workings, only a few ounces of placer gold were presumed recovered with the bulk of mineral production coming from lode mining (LaPointe et al 1991: 25). Lode mining produced silver and gold, and occurred intermittently from the early 1870s through the 1930s. From 1934 to 1939 the mines in the Alder District produced 503 ounces of silver and 27 ounces of gold (Granger et al. 1957:26).

In 1949 prospecting shifted from gold and silver to tungsten. "Following the discovery of tungsten in 1949 on the west side of Tennessee Mountain, exploration in the district focused on scheelite- and molbdenite-bearing skarns located on the north, west, and southwest flanks of Tennessee Mountain" (LaPointe et al 1991: 25). Union Carbide began drilling for tungsten at the Garnet Mine on the southwest flank of Tennessee Mountain during the 1950s (LaPointe et al 1991: 26). The claims, originally held by Knowles and Montrose of Mountain City, were prospected in 1953 with active workings not occurring until 1954 (Bushnell 1967: 34). No production or assay records are available for that work. The only recorded tungsten production was between 1970 and 1977 (LaPointe et al 1991: 26). No mining is currently being conducted in the Garnet Mine area. Bushnell mentions a mill located along the Tennessee Gulch near the Parks cabin, however, no additional information has been found concerning this mill (Bushnell 1967: 34).

Island Mountain District

The Island Mountain Mining District, alternatively known as the Gold Creek, Wyoming, and Bruno Districts, adjoins the southern boundary of the Alder district previously discussed. This district has a varied and complicated history with numerous small communities being established then disappearing within short times. Names of the communities, creeks and the district itself changed continuously throughout its history. Many discussions concerning this mining district were found to have conflicting or vague information making it difficult to determine the exact location of the established communities, which creeks were being discussed and which dates were most appropriate. The following discussion attempts to straighten out the basic information concerning the district.

The first mineral discoveries were made in 1864 along what was then known as Bruno Creek, now Martin Creek (LaPoint et al 1991:124). The Bruno Mining District was organized in 1869 with the Wyoming District, to the west, being organized that same year. The original discoveries were lode deposits of silver-copper-antimony-bearing quartz veins on the southwest slopes of Silver Mountain (now Rosebud Mountain) (LaPointe et al 1991:124). The lode deposits were not immediately exploited and in 1870 placer gold was found in the nearby creeks resulting in a rush to the area and the establishment of the community of Bruno City along Bruno Creek (also called Crystal Creek and currently known as Martin Creek). Census records for June 1870 show that

approximately 122 people, including one Chinese washer named Ah Chung, lived in Bruno City, indicating that perhaps people had begun populating the area earlier than the rush of 1870 (State of Nevada, Elko County, Bruno City Census 1870). The majority of the censored population was white male miners, although teamsters, freighters, carpenters, stage drivers, farmers, housekeepers, and restaurant keepers were also listed.

The 1880 census[9] of Bruno City reflects the majority of the population having vacated the area and 36 hardy souls remained, including five Chinese miners; Shoshone Jim, an Indian Medicine Man; Sonora Hicks and his family; Hugh Martin with his wife and seven children; and finally George Washington Mardis and his wife Fannie. Sonora Hicks was of mixed white-Cherokee ancestry born in Georgia. He served as chief of scouts for the U.S. Army at Fort Boise in southern Idaho before coming to Elko County where he worked mining claims in the Hicks Mining District (to be discussed later) during the 1870s (Farrell 1999). Hugh Martin was an early settler of the region from Nova Scotia. According to his son, Hugh Martin Jr., the elder Hugh Martin moved his family from Mountain City to homestead in the Martin Creek area (Bruno City area) in 1867 (Dittmer 1964:1). Martin Canyon and Martin Creek are named after Hugh Martin.

George Washington Mardis (nicknamed "Old Allegheny") was another well-known person in the area. He reportedly founded the Mardis Mining District (later changed to the Charleston Mining District, which will be discussed later) to the east of the Island Mountain District in 1876, when placer gold was found along Seventy-Six Creek (LaPointe 1991:56, Patterson 1991:604). Mardis became a freighter hauling ore and supplies between the small mining communities and the larger towns along the railroads. On September 10, 1880 Mardis was on his way to Elko from Gold Creek with $250.00 in gold coins and a list of supplies for the town's Chinese camp when "New York Charley", a local Chinese man, stopped him and demanded the money (Hickson 2006:1). When Mardis didn't produce the gold, Charley shot him four times then slit his throat and left him dead along side the road. Charley was quickly apprehended as he had been barefoot during the murder and was the only person in the area to have six toes on each foot (Hickson 2006:2-3). Charley was subsequently hung in the Stofiel's store in Gold Creek (Patterson et al 1991:605).

[9] The census record of June 15, 1880 indicates that the community being counted was Bruneau City and a second census record dated June 16, 1880 indicates the community as Mardis Mining District. Presumably these are one in the same areas and may have been segments of the larger community of Bruno City. There is confusion concerning the spelling of Bruno City since a similar sounding townsite was located to the north in Idaho, Bruneau City.

Figure 14. Mine in Hammond/Coleman Canyon. Circa 1903. Frau Hilda Matthey Photographer

Hearing of gold in Northeastern Nevada, Emanuel Penrod left his work at the Comstock load in Virginia City, Nevada and came to the Gold Creek area on September 15, 1873 where he began a successful mining venture (Gold Creek Newspaper February 11, 1897). At the same time that Bruno City was prospering, three prospectors, Penrod, Crate Rouselle and W. Newton discovered additional rich placer gold deposits along Gold Creek (aka Fuzzi Gulch), Hammond Creek (aka Patterson Gulch) and Coleman Creek (aka Hope Gulch) in 1873 (Lincoln 1982:47, LaPoint et al 1991:124, Rohwer 1940). The Island Mountain Mining District was formed October 11 of that same year with Penrod as president and Walter Stofiel as secretary (Hall 1998:98). Further placer claims were founded along Penrod, Big Bend, Poorman and Mill Creeks (LaPoint et al 1991:124). According to W. O. Vanderburg (1936:73), the district was one of the most prominent and productive placer areas in the state. The placers in Hope Gulch were worked by both Chinese and Americans, who reportedly recovered up to $2.50 of gold per pan and as much as $30.00 per day per man along Gold Creek (Vanderburg 1936:73-74).

As a result of the placer mining a small camp called Penrod was established on the east side of Gold Creek and reportedly reached a peak population of 103 individuals by 1875 (LaPoint et al 1991:124, Hall 1998:99). The community of Penrod may be an alternate name for the Chinese community of Island Mountain, since Penrod was the first postmaster of the Island Mountain Post Office, which was established on May 5, 1884 (Carlson 1974:143). The community of Island Mountain became a small hamlet of predominately Chinese miners who had come to the area by way of railroad construction

jobs. The majority of the pre-1900 placer production was from the hard work of these men (LaPointe et al 1991:125).

Figure 15. Hong Lee in front of his store.
Circa 1910. Liang Photographer. Courtesy of the NE NV Museum.

Placer mining is dependent upon water to be successful. When winters are bad in northern Nevada little snow melt is available during the summer months to conduct placer operations. To alleviate this problem 40 Chinese men were hired in 1874 to construct a ten-mile long canal (called the Owyhee canal and/or the Excelsior canal) to transport water from the Owyhee River to the placer operations in the Island Mountain District (Elko Independent 8-15-74, Angel 1881:394). Unfortunately this system still only supplied water at full capacity during two months out of the year (Angel 1881:394). The issue with lack of water created ups and downs through the years in the mining district and operations slowed down. Ironically the 1880 census record for Island Mountain indicates that 71 residents, including 54 Chinese remained at Island Mountain to continue mining.

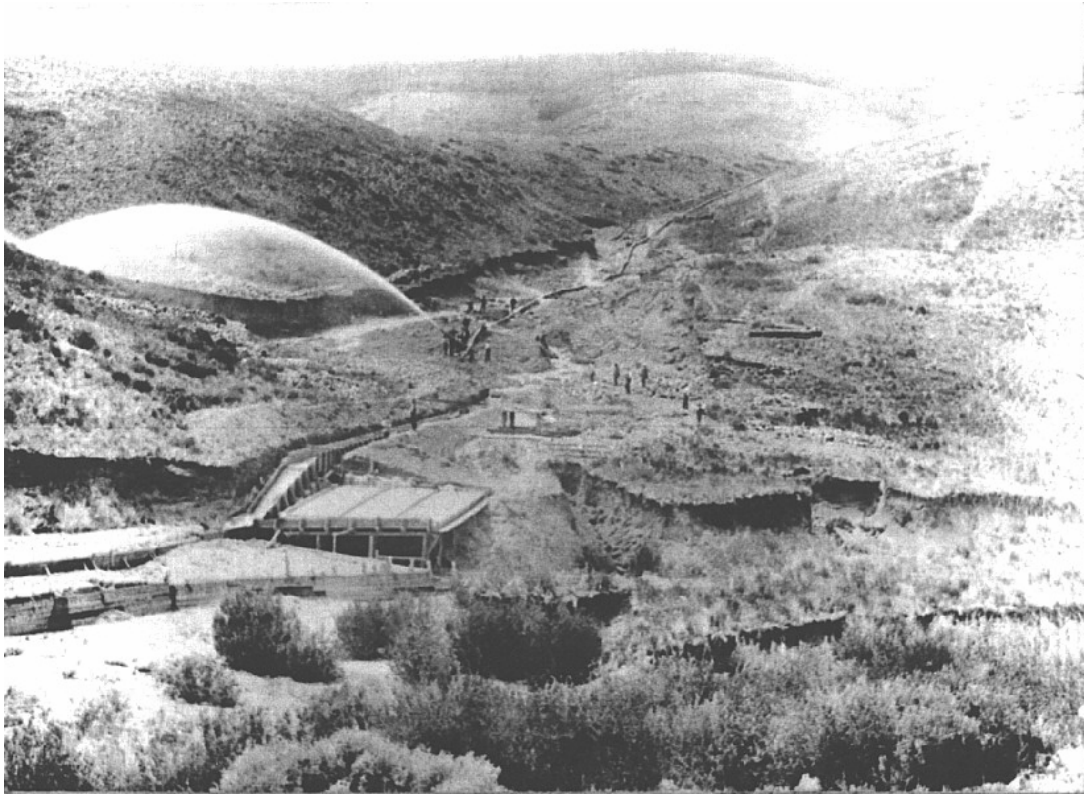


Figure 16. Hydraulic Mining in the Island Mountain Mining District. Circa 1903. Frau Hilda Matthey photographer.

In the 1890s mining interests once again settled on the Island Mountain District. By 1896 the Gold Creek Mining Company was organized and the community of Gold Creek was established near the confluence of Mill and Martin Creeks (LaPointe et al 1991:124). Around the turn of the century the town claimed a post office, hotel, a weekly newspaper, numerous stores, electric lighted streets and a city water system (Patterson et al. 1991:615). To aid placer mining and to provide water to the town of Gold Creek, an extensive network of three water conveyance ditches and a reservoir (known as the Sunflower Reservoir) was proposed. In 1897 the Gold Creek News reported that the Gold Creek Mining Company had constructed the ditches and reservoirs under a contract awarded to the Corey Brothers of Salt Lake City. Although the reservoir and many miles of ditch were constructed the ditch to the placers was not completed and the mining boom at Gold Creek was over by 1898 (LaPointe et al 1991:124).

The town of Gold Creek remained after 1898 by supplying services to mines in the surrounding territory and to ranchers (Murbarger 1958:183). In 1911 the Humboldt National Forest headquarters was moved to Gold Creek where it remained until 1917 when it was relocated to Elko. Even though the Hammond Exploration Company constructed a small amalgamating mill near Gold Creek in 1917 the community continued to decline (Patterson et al 1991:616). Around 1928 the Gold Creek townsite and all of its remaining buildings were bought by the Moffat Cattle Company and

demolition began (Murbarger 1958:184). The only testaments to the town's existence are a few broken artifacts and a small length of sidewalk.

Placer mining continued sporadically into the 1950s in the Island Mountain District. Some of the more productive mines during the 1900s included the Gribble Antimony Mine and the Rosebud and Diamond Jim Mines. The Gribble Mine produced 15 units of Tungsten between 1952 and 1955 (LaPointe et al 1991:125). The Rosebud and Diamond Jim mines were first mined in 1934 but extensive operations did not take place until the 1950s (LaPointe et al 1991: 125). Production of lead, silver, zinc and copper continued at these mines until the 1970s. Gold was recorded in the 1970s and 80s.

Other small prospecting and mineral extraction activities occurred throughout the district. One small mine, known as the Little Joe Mine, was prospected for gold in the early 1930s. In 1952 tungsten was found, and although of a lesser grade than that found in the vicinity of Tennessee Mountain, it is suspected that the mine produced a few tons of tungsten ore (LaPointe et al 1991: 126). The Little Joe Mine claim was held by Jack Mink of Elko according to Bushnell (1967: 34). Forest Service files mention that Land Status Records indicate a pre-1955 surface right for mineral interests to John W. Mink with an action date of 1961. LaPointe et al (1991: 128) describe the workings as having a 105-foot adit, a 40-foot vertical shaft, and several bulldozer trenches. In 1995 unexploded dynamite was discovered in the shaft and subsequently detonated insitu.

Charleston Mining District

The Charleston Mining District was originally called the Mardis Mining District after George Washington Mardis who found placer gold in 1876 in what was to become known as Seventy-Six Creek (LaPointe et al 1991:56). The district is located between the Jarbidge and Island Mountain Mining Districts in northern Elko County. The district has also been known as the Cornwall or Copper Mountain Districts and the Bruneau District, which was derived from the large number of bears found in the area (Gold Creek Newspaper 1-28-1897).

The placer discoveries of 1876 led to the founding of the town of Mardis[10], although Hall suggests that a number of mines were operating in the district since the early 1870s and the Mardis Mining District was actually organized in the spring of 1872 with active mines, such as the San Francisco, Black Warrior, Sherman and Northstar, along the Bruneau River, not near the future Mardis townsite (Hall 1998:91, Gold Creek Newspaper 1-28-1897). Between 1872 and 1876 only assessment work concerning the gold deposits was conducted. It was while digging a small hole in a streambed to fill water jugs that William McLaughlin and another man by the name of Watters discovered pay gravel and serious mining began (Gold Creek Newspaper 1-28-1897).

[10] Census records for 1870 and 1880 show that Mardis lived in Bruno City until his murder in 1880.

In 1880 Mardis was murdered and the town of Mardis quickly faded. By 1883 only a few people remained continuing placer operations at the Troy, War Eagle, Smokey City, Sunnyside and Palisade mines (Hall 1998:92-93).

In 1885 the Mardis Mining District was reorganized and on August 28, 1886 a post office opened at Mardis called the Bayard Post Office (Hall 1998:92-93). The post office closed on February 2, 1889 but by 1890 the town had grown to 41 individuals. The town was slowly reviving and the name was changed to Charleston after Tom Charles, a local miner (Hall 1998:94). The Charleston Post Office was opened on January 31, 1895. Placer mining continued until 1900 with an estimated 300 ounces of gold produced between 1876 and 1900 (LaPointe et al 1991:57). Lode discoveries were made in the early 1900s on the south and east flanks of the Copper Mountains and several new mines were opened that included the Prunty, Slattery and Black Warrior lode mine (LaPointe et al 1991:56). Small amounts of gold, silver, copper, tungsten and antimony were recovered.

Mining continued sporadically in the district for numerous years. The King Solomon Mining and Milling Company constructed a sawmill on Deer Creek in 1901 but the company folded soon after the mill was constructed and the mill was sold to S. P. Carlson in 1903 (Hall 1998:95). In 1905 the New York and Nevada Mining Company constructed a five-stamp mill in the area. The Prunty family, who had moved to the area in 1900, conducted the majority of the mining in the area for numerous years. In 1907 Pinckard Prunty constructed a small mill at his mine (Hall 1998:95). The discovery of gold in Jarbidge Canyon in 1909 provided another burst of energy to the Charleston District. By 1911 one of the first roads into Jarbidge from the south was constructed through Charleston. Numerous mining companies came and went and on July 31, 1951 the Charleston Post Office was closed (Hall 1998:96). Buildings were moved to nearby ranches or succumbed to the elements leaving little behind. Sporadic gold and silver mining continued until the 1980s. Continued exploration identified several additional areas that have as yet to be developed. Over the years the Prunty family had acquired land and eventually turned their sole attention to ranching (Hall 1998:95). The family continues to ranch the area today.

Hicks Mining District

The Hicks Mining District is located in extreme northern Elko County centered over Enright Hill, approximately 10 miles northeast of Mountain City. The district is named after Sonora Hicks, a Cherokee/Anglo European prospector originally from Georgia (See Island Mountain Mining District). He may have begun prospecting in the area in the early 1870s as his name appears in the index of the 1875 Nevada State Census (Farrell 2000:9). The history of the Hicks mining district is limited but it is known that the majority of the mining activity was in the vicinity of Enright Hill and McDonald Creek (LaPoint et al 1991: 110).

By 1874 numerous mines, including the McDonald, Red Cloud, Congress, Constitution, North Star, Bamboo, and the Bullion, were being worked (Hall 1998:105). According to Hall (1998:105), in 1876 the McDonald Mine was bonded to J. R. Bradley, George Russell, Frank Campbell and Amos Plummer but in 1879 they gave up on the mine and it was leased by Henry Catlin and J. W. McDonnell who had been in the district and had established the Telephone Mine in 1878. "The McDonnell lode claim, located on top of Enright Hill, and the McDonnell mill site, located at the confluence of Blackbird Gulch and McDonald Creek, were both surveyed for patent in 1878 and were patented in 1879 and 1880 respectively" (LaPoint et al 1991: 110). In 1878 Michael Enright began mining in the Hicks District and established the Silversides, Telegraph, Fraction and Frisco mines (Hall 1998:105). By the end of 1880 Hall (1998:105) states that eighteen men were working various mines and claims in the district. Some of the men employed included Sonora Hicks and his sons Jess and Eph, Henry Tonkins, William Austin, Ed Youngblood, John James and Joseph Pearce.

Mining continued sporadically for the next few years with new mines being opened, however, the returns were meager and simply provided the means for a living. Hicks and his sons reportedly continued working their claims through 1895 but by the turn of the century only Enright, McDonald and Jack Chipman were working in the district (Hall 1998:105). In the 1940s the Wicker Mine was opened on the northwest flank of Merritt Mountain and several railcar loads of manganese ore was shipped out in 1943 (LaPoint et al 1991: 110). The early 1950s saw a small surge in mining on Enright Hill where lead-zinc-silver ore and small amounts of gold and copper were produced. Exploration drilling in the 1970s and 1980s produced such small quantities of gold they were not pursued (Hall 1998:105).

Gold Basin District

The Gold Basin Mining District (aka Rowland Mining District) is in northern Elko County north of the Alder Mining District and includes the northern section of the Bruneau River Canyon and the Bearpaw Mountain area. The main workings were located near the community of Rowland with additional prospects located east of Rowland between Taylor Creek and Deep Creek as well as on the north side of Bearpaw Mountain (LaPointe et al 1991:100).

Placer gold was originally discovered along the Bruneau River in 1869 and according to Vanderburg (1936:72) small-scale placer operations continued intermittently at least into the early 1930s. No records of placer gold production were ever kept but it was reported that in 1931 A. S. Longwill treated a small amount of gravel from the north fork of the Bruneau River that yielded less than $1 per cubic yard (Vanderburg 1936:72). A small reservoir had been dug to impound the water used for sluicing.

Lode mining began in the 1920s with the most extensive workings at the Bruneau (Elko) mine where two tunnels were driven (LaPointe et al 1991:100). Joe Riffe started the Bruneau mine, built an arrastra but sold out after making a marginal profit (Hall

1998:135). In 1924 Roy Cook and Jack Goodwin incorporated the Bruneau Gold Mining Company and proceeded to construct a power plant, dam and flume system followed by a bunkhouse, cookhouse and then a mill (Hall 1998:135). In 1927[11] a three-stamp and twenty ton amalgamation mill was constructed at Rowland to process ore from the Bruneau mine. The mine and mill closed in August 1927 due to lack of funds but the Blewett brothers purchased and reopened it in 1930 adding a cyanide agitation plant (Hall 1998:135, LaPointe et al 1991:100). Until mining ended at the Bruneau Mine in 1939 production was intermittent, and between 1930 and 1939 the mine yielded only 139 ounces of gold and 56 ounces of silver (Hall 1998:135). The only recorded production of lode gold and silver was between 1926 and 1937 (LaPointe et al 1991:100).

Although the Gold Basin District produced minimal amounts of ore a small community developed to support the miners and the local ranchers who had also settled in the area. In 1896 the first post office was opened on the Joe Taylor ranch along the Bruneau River. The post office was called Bueasta, which was the combination of three local men's surnames: Bu from Frank Buschaizzo; Eas from Lou Eastman; Ta from Joe Taylor (Patterson et al 1991:648). On February 15, 1898 the post office closed and soon after Taylor sold the ranch to John Scott (Hall 1998:133). A new post office was opened on March 5, 1900 and was named Rowland after Rowland Gill, a new rancher who had settled in the area (Hall 1998:133). According to Mary Scott Barton (1981:3) the Rowland Post Office was a few miles up the road from the Scott ranch and was run by Rowland Gill who gave up the office. The post office was then moved to the Scott house but the name Rowland was retained and the Scott ranch was considered Rowland. In February 1930 Scott died and the post office and school were moved to the Bruneau mine location that was located about a mile south of town (Hall 1998:135). After the mine closed in 1939 the town of Rowland became strictly a ranching community but the post office was only able to continue operations until November 14, 1942 (Hall 1998:136).

Ivada was another small ephemeral community that arose from mineral prospecting. It was described as a little tent town that sprang to life in early summer of 1907 after John Blosser and Matt Graham found a silver ledge in the Taylor Basin along Taylor Creek (Patterson et al 19991:616). Shortly after the silver ledge was found Joe Riffe, Charles Addis and Ed Blosser joined in the explorations (Patterson et al 1991:617). A camp was formed in this remote location with access restricted to horse, mule or feet. At the height of its existence the community reportedly had about 250 miners although business establishments, such as a general store, saloon and restaurant would indicate that not all were miners (Patterson et al 1991:617). Patterson et al (1991:617) claim that it was these miners that organized the Gold Basin Mining District and elected John Caldwell[12], a realtor from Idaho as their claim recorder. Caldwell had initially come to the community to stake out the townsite of Ivada and began selling some of the 648 lots he laid out,

[11] The dates for construction of this mill are questionable. LaPointe et al (1991:100) state that the mill was constructed in 1927, while Hall (1998:135) infers that the mill was completed soon after February 1926.
[12] The Scott ranch was apparently situated on an old Native American site and many projectile points were dug up while plowing for the potato patch. Apparently John Caldwell was very excited about these points and took many home with him (Barton 1981:20).

however he could not provide legal title to the lots because the town was on a forest reserve[13] (Hall 1998:107).

No wood or permanent structures were ever built in Ivada. Everyone lived in tents and businesses conducted their operations out of tents as well. Harry Riddle from Idaho ran a combined general store and saloon; Mulligan Mike opened a restaurant, M. M. Wolfinger ran a lodging house and A. D. Sly ran an assay office (Patterson et al 1991:617, Hall 1998:107). Due to the remoteness of the town supplies were shipped by freight to the Scott ranch and then transported by packhorse or mule to Ivada. Fresh vegetables, apples and beef were also available from the store at the Scott ranch (Patterson et al 1991:617).

Very little ore was produced from this area and due to the remoteness only the highest-grade ore was shipped out. Apparently most of the activity that took place was the selling and reselling of claims with a flurry of such activity taking place in May 1910 (Hall 1998:108). By the summer of 1911 the inhabitants of Ivada had packed up their belongings and headed to Jarbidge to make their riches at the newly found gold and silver discoveries in that area. Little was left behind to mark the location of this small community that was later described by Joe Riffe "as a happy, fun-loving place where the inhabitants created their own entertainment" (Patterson et al 1991:617).

Telephone Mining District

The Telephone Mining District was located at the headwaters of California Creek north of the Island Mountain District. The only reference to this district was found in Hall (1998:137), therefore this is a brief summary of that discussion along with some additional information gleaned from the 1870 census record of Bruno City.

J. W. McDonald organized the district in the summer of 1885 after his discovery of the Telephone Mine, which was presumably along Telephone Creek. McDonald built some cabins near the mine and moved his family there, from Bruno City, in the hopes of striking it rich. McDonald along with his wife, originally from Switzerland, and young daughter, born in Colorado show up on the 1870 census records for Bruno City. McDonald's mine produced very little and he abandoned his mining venture in 1890. Only two other prospectors, A. Van Uleck and Mortimer Smith discovered ores in the area and opened the Review Mine.

[13] In June 1906 a report was written discussing the reasons that this area of Nevada should be added to the Independence national Forest. In 1907 "Forest Reserves" were changed to "National Forests" and in 1908 the Ruby and Independence National Forests were combined to form the Humboldt National Forest. The Bruneau Addition was added to the Humboldt National Forest on January 1, 1909 (Frampton nd). At that point Ivada was probably within the boundaries of the National Forest, however, in 1912 the Rowland area was removed from the forest and the community of Ivada may no longer be within the current forest boundaries.

Independence Mountains Mining District

The Independence Mountains Mining District encompasses a large area centered over the southern to middle Independence Mountain Range from the Jack Creek/North Fork Humboldt River south almost to Highway 226, which is the road to Tuscarora. Mineral deposits in the Independence District were found later in the history of mining on the Mountain City Ranger District. Because most of this mining history is not historic only a short description summarized from LaPointe et al (1991:113) will be presented here.

The earliest recorded mineral production was 20 tons of antimony in 1918 from the Burns Basin Antimony Mine (LaPointe et al 1991:113). In 1945 an additional 12.5 tons of antimony was produced from that same mine. During the mid 1960s exploration for barite resulted in the discovery of several barite deposits and the opening of the Snow Canyon, Taylor Canyon and Hidden Hills mines. Exploration for gold began in the 1970s, which led to the discovery of a Carlin-type disseminated gold deposit in Jerritt Canyon. Subsequent exploration in the late 1970s revealed three areas of low-grade gold mineralization and a large open pit mine was developed to extract the gold. This mine was known as the Enfield Bell Mine or Jerritt Canyon Mine. Heap-leaching began in 1986. Mining continues to this day in the Jerritt Canyon Mine and exploration activities continue in various areas across the mining district that includes the Big Springs area to the north and various locations around the existing mine.

TIMBER PRODUCTION AND MILLS

With the discovery of mineral resources and the settlement of ranches in the area the need for large amounts of wood arose. Although wood is an important resource for development of housing, mines and for heat very little information was found concerning this activity. The majority of information was found in various places throughout Patterson et al (1991) unless otherwise noted.

The development of the large community of Tuscarora in 1874 brought woodchoppers to the Jack Creek (Independence) Mountains for cordwood, lumber and mining timbers. Chelsey Woodward, previously discussed, bought a twelve-horse team from the Young American Mining Company of Tuscarora and along with numerous other teamsters began hauling wood to the mines in Tuscarora (Patterson et all 1991: 460). It is estimated that between 1877 and 1892 8,000 to 12,000 cords of wood and 150,000 to 300,000 linear feet of round mining timbers were hauled from the Jack Creek area to Tuscarora (Patterson et al 1991: 460). The 1906 GLO Map for T42N, R53E shows the location of an "Old Wood Camp" in the Independence Mountains. Angel (1881:388) mentions the sawmill along Jack Creek and states, "About forty men are constantly employed in the lumbering business at this mill." Although most trees were brought out of the mountains as wood, Italians from the Eureka area were brought in to turn the wood into charcoal (Patterson et al 1991: 460). No carbonerras, which the Italians are known for, have been located in the Independence Mountains to date.

Gottardo Pattani bought the old Jerrett ranch at Niagara Springs south of Jack Creek and hired large crews of woodchoppers to cut timbers in the Independence Mountains (Patterson et al 1991: 454). The wood was packed out on horses.

Two other sawmills were noted in Hill's (August 20,1870) account of the Cope Mining District in 1870. One was the Davis & Company Sawmill in the Independence Mountains and the other was the Hooker & McFee's sawmill on Trail Creek southwest of Mountain City. According to Hill the Hooker & McFee sawmill was located eight miles from Cope and delivered white fir lumber for $75 per thousand board feet.

POWER PLANTS

In order to power the various mills operating at the mining camps electric power was needed. A few power plants were constructed within the forest boundaries. Recently the remains of the Dexter Mill Power plant were discovered after a wildfire. The mill is located along Jack Creek and Chicken Creek and was constructed to provide power to the Dexter Mill in Tuscarora. The Dexter Mine was opened in 1888 but was tapped out by 1905 (Patterson et al 1991: 658). Between 1905 and 1912 the old Dexter dumps and tailings were reworked using new and improved recovery methods. In 1914 the Dexter Mill burned down. The power plant shows up on a GLO map dated 1906. The surveys for this map were completed between 1903 and 1905, thus placing construction of the plant to prior to 1903. Records indicate that the mill was constructed in 1899 as an additional power source for the mill and the town of Tuscarora (Obermayr 2004:16). Because the Dexter mill burned down in 1914 it is assumed that the power plant was not used much after that time.

Figure 17. Remains of the Dexter Power Plant. 8-25-2006. K. Kumiega

Possibly associated with the Dexter power plant was another plant constructed on the Pattani ranch south of Jack Creek. Patterson et al (1991:454) state that "Al Shannon constructed a power plant on the Pattani ranch, the power being wired from Jack Creek to Gottardo Pattani's booster station and from there to Tuscarora." No other information concerning this plant was found.

Another hydroelectric plant was located along White Rock Creek north of Jack Creek. Little is known about this power plant as well. George Boyce, a rancher along White Rock Creek, "did the engineering work for the power plant at Whiterock" (Patterson et all 1991: 615).

TRANSPORTATION

Although numerous roads exist across the Mountain City District there are only a few major roads that were developed historically to access the important mines or communities that developed in the late 1800s to mid 1900s, particularly between Tuscarora and Mountain City and Elko and Mountain City. According to the historic GLO Maps numerous roads were already in existence by 1871.

The "Old Cope Road" from Elko to Mountain City and the "Road to Cope" from Tuscarora to Mountain City both show up on GLO maps dated 1871 with surveys conducted in either 1870 or 1871. The "Old Cope Road" originally ran from Elko north along the lower eastern slopes of the Independence Range. Somewhere in the vicinity of the current Wildhorse Reservior the road turned slightly northeast and headed east along Penrod Creek then turned north to the Point of Rocks location. From here it followed west along Alleghany Creek to California Creek and then on to Mountain City.

The "Road to Cope" accessed the mines in the Columbia and Bull Run area. Off of this road were numerous roads that crossed the Independence Mountains. These roads include the Jacks Creek Road (currently County Road 732), the Trail Creek Road (currently County Road 729) and an unnamed road that crossed the Independence Range along Beaver and Clear Creeks, just a few miles north of the Jacks Creek Road. The unnamed road along Beaver and Clear Creeks was apparently not used to the extent that many of the others were used as only a portion of the road shows up on the HTNF District map.

Other major roads in the area were established later and were developed to access mineral claims or ranches. The Meadow Creek Road (currently County Road 745) between Gold Creek and Rowland shows up on historic GLO maps dated 1905 with survey dates of 1904. This road also connects with the "Old Road to Cope" near the Sunflower Flat Reservoir. The Meadow Creek Road also accessed a route through the Diamond A Ranch to the new mines in Jarbidge Canyon. The road from Deeth to Jarbidge via Charleston was completed in July of 1911 (Mathias and Berry 1997:53).

Figure 18. Head of Trail Creek. 1911. Unknown Photographer.

In response to copper discoveries at the Rio Tinto Mine in the 1930s, a new road directly accessing Mountain City from Elko was proposed. The Nevada Department of Highways began construction on a new road connecting Elko with Mountain City, which is now known as State Route 225. The new road was constructed to the east of the "Old Cope Road" until it reached the Wildhorse area where it veered northwesterly and through the Owyhee Canyon up to Mountain City. The December 17, 1937 issue of the Humboldt Hummer states "The State of Nevada and particularly Elko County have been very anxious to see this road constructed to standard so as to facilitate fast marketing of livestock and to get a fair share of the business from the famous Rio Tinto Copper Mine at Mountain City". Numerous agencies and construction contractors worked hard to complete this road. The Forest Service provided $221,000.00 towards the Oakely and Utah Construction contracts (Humboldt Hummer December 17, 1937). The road was completed in 1939-1940 (Patterson et al 1991:644).

DESIGNATION OF THE FOREST SERVICE AND THE MOUNTAIN CITY DISTRICT

The history of the Forest Service begins in 1891 when congress authorized President Benjamin Harrison to withdraw forested land for the public. These Forest Reserves were administered by the Department of the Interior. In 1905 congress determined that the Forest Reserves should be administered by the Department of Agriculture. A new Forest Service Department was set up that replaced the Department of Agriculture's Bureau of

Forestry. The intent of the Forest Service was to reserve lands that were "vital to the nation's well-being. They were particularly concerned with saving for future generations the magnificent forests and rangelands of the West, the sources of its storied and historic rivers, which were literally the lifeblood of that arid land" (Goodwin nd:1-2).

This conservation effort was not limited to politicians in the East. It soon became apparent that ranchers in the west were concerned over the depleted conditions of range lands. Much of this destruction could be attributed to uncontrolled cattle grazing and large numbers of nomadic sheep bands that scoured the land. Uncontrolled range and forest fires, many set intentionally by sheepherders, also contributed to the depletion of available forage. Ranchers in the west, including Nevada, began petitioning their congressional representatives to form Forest Reserves in their areas to protect the land and their livelihood. A petition requesting creation of a Forest Reserve in the Whiterock and Bruneau Mountains of Elko County began the legislative history of what is currently known as the Mountain City District of the Humboldt-Toiyabe National Forest.

In 1906 the Independence Forest Reserve was established. In 1907 the name Forest Reserve was dropped across the country and the reserves became known as National Forests, resulting in the name change to the Independence National Forest. The Gold Creek Ranger District operated from 1907 through approximately 1971 when it became part of the Mountain City Ranger District. In 1908 the Independence and Ruby Mountains National Forests were combined and became the Humboldt National Forest (HNF) with C. S. "Syd" Tremewan as the first Forest Supervisor. The first Forest Supervisor's office was located in the Harrington building in Elko but was moved to Gold Creek in 1911 after the District Forester (now Regional Forester) in Ogden, Utah made an arbitrary decision to move the office (Frampton nd:np). Although the town of Gold Creek was fading at the time the move was made and the office remained there until 1916 at which time it was moved back to Elko.

Figure 19. Syd Tremewan and clerk in Forest Service Office, 1908. Unknown Photographer.

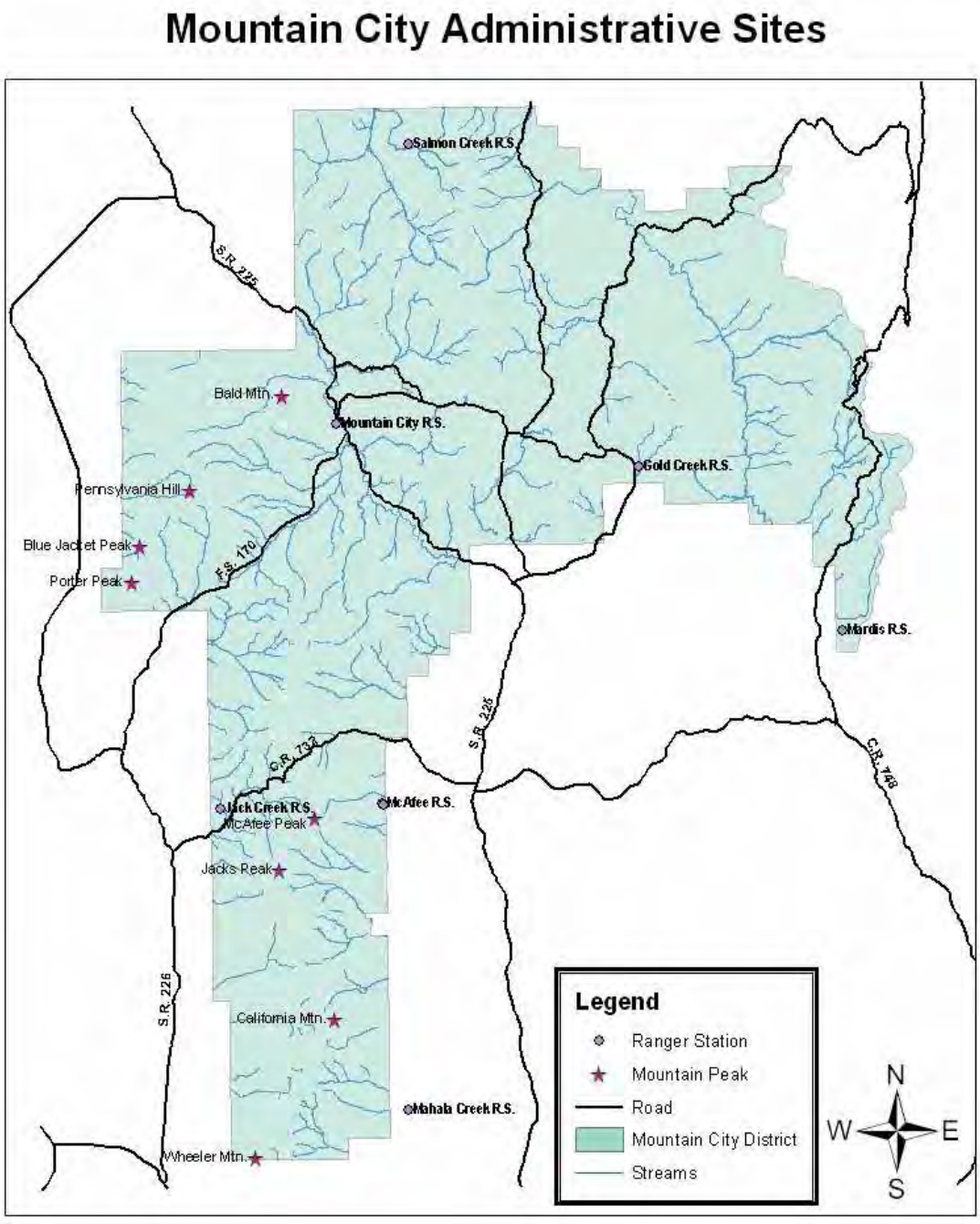
In 1909 the Owyhee, Bruneau, Mary's River and Pole Creek areas were added to the HNF. Through the years the district continued to change. In 1912 the Elk Mountain area was added to the forest's Jarbidge District, but the Rowland, Diamond A, and Charleston areas were deleted.

Numerous ranger/guard stations were developed across the Mountain City District to manage the newly formed forest resource issues. These stations were located at Gold Creek, Jack Creek, McAfee Creek, Meadow Creek, 76 Creek, Mahala Creek, Salmon Creek and Mountain City. Many of these structures are still standing and there are some that have been moved from one location to another. Other locations were deemed unnecessary and were demolished. The Gold Creek, Mountain City, and 76 Creek stations are all still standing and many of the remaining buildings have been determined eligible for listing on the National Register of Historic Places due to their association with the Civilian Conservation Corps. The Gold Creek Ranger Station was nominated to the National Register of Historic Places (NRHP) in 1992. The historic Supervisor's Office in Elko is also standing and is eligible for listing on the NRHP. The remaining stations are currently archaeological sites. Because a thorough examination of Humboldt-Toiyabe National Forest Administrative sites was prepared in 2001 (Wilson 2001) the reader is referred to that document for more information concerning these buildings.

Figure 20. A. W. Garrison at McAfee Ranger Station. 1907. Unknown Photographer.

Figure 21. Meadow Creek Ranger Station. 1911. Photographer Tremewan.

Figure 22. Forest Service Administrative Sites



CIVILIAN CONSERVATION CORPS/ERA

Much has been written about the history of the Civilian Conservation Corps so that history will no be reiterated here.

Although there were no CCC camps located within the Mountain City Ranger District boundaries the CCC crews did construct numerous Forest Service administrative buildings as mentioned above. Of the two closest camps to the Mountain City District, one CCC camp was located in Lamoille Canyon on the Ruby Mountain District of the HTNF and another camp was located near the historic town of Tuscarora. The Lamoille Camp was mainly a Forest Service supervised camp and was in operation intermittently between May 1933 until October 1940 (Kolvet and Ford 2006:156-162). The Tuscarora Camp was supervised by the Division of Grazing and was in operation intermittently between September 1938 and October 1940. An additional camp was located in Paradise Valley on the Santa Rosa District of the HTNF and it was in operation intermittently from May 1933 to June 1941. The Paradise Valley camp worked on projects in the Mountain City District. Although main camps were established in particular places, camp crews often traveled to distant areas to work and spike camps were set up to accommodate them.

Another New Deal era act established during the 1930s, which is not often mentioned, is the Federal Emergency Relief Act, which was passed on May 12, 1933. This Act established the Federal Emergency Relief Administration whose main goal was to alleviate adult unemployment. The Administration, funded by the Reconstruction Finance Corporation "assumed responsibility for the distribution of Federal relief funds and for the coördination of relief activities in the various states. The sum of $500,000,000.00, later augmented by an additional $950,000,000.00, was put at the disposal of this authority to assist the states in meeting relief costs and to permit more adequate standards of relief. A further purpose was to improve the methods employed by relief administrative units in the several states" (North Carolina Emergency Relief Commission 1936: 14). FERA was divided into four principal divisions: the Works Division, the Division of Relations, the Division of Research, Statistics and Finance and the Division of Rural Rehabilitation. The Works Division was responsible for initiating federal projects and supplementing state and local projects. Despite criticisms the FERA succedded in completing over 235,000 projects and had employed nearly 2.5 million workers during its peak employment period (Olsen 1985:177). The Works Division specifically, paved the way for the Works Progress Administration of 1935.

The buildings on three currently standing adminstrative sites were either constructed or repaired/remodeled by the CCC or by another work relief crew. At the Supervisor's Office located on Fir Street in Elko, Nevada four buildings were known to have been constructed by the CCC and a fifth building, the warehouse was improved by the CCC. It is unknown which crew built some of the buildings but according to the December 17, 1937 issue of the Humboldt Hummer (an internal Forest Service newsletter), a stub camp (ie spike camp) from Paradise Valley was stationed in Elko and it consisted of eight enrollees and their Foreman Jack Abegglan. These men constructed an oil house

(currently called the Storage building), equipment building (possibly the Tire Storage shed), loading ramp and warehouse fence at the Supervisor's office on Fir Street in Elko.

The Gold Creek Ranger Station benefited as well from the skills of the CCC crews. Although some buildings date to 1911 the majority of the structures were either built or remodeled by the CCC in the 1930s. The existing stone cellar was constructed by the CCC reportedly of some of the stone from an old nearby mill constructed in 1867 by Henry and Bob Catlin (Rohwer 1940:2). This ranger station was listed on the National Register of Historic Places on September 14, 1992.

Emergency Relief Administration (ERA) crews are known to have worked on various projects within the Mountain City District. An October 19, 1937 issue of the Humboldt Hummer mentions an ERA crew installing one-thousand feet of pipeline to the Gold Creek Ranger Station. They also constructed a water storage tank and were in the process of constructing a five-mile telephone line. Work relief crews also constructed the majority of the buildings at the Mountain City Ranger Station. The June 9, 1938 issue of the Humboldt Hummer states "June 1 Daniel J. Foster entered on duty as Junior Clerk to handle the ERA work on the Humboldt. He succeeds Marjorie Mitchell ….".

DESIRED FUTURE CONDITION

Approximately 12.5% of the Mountain City Ranger District has been surveyed for cultural resources. Based on information from historic GLO maps and other archival information there are still a significant number of sites that can be found within the district boundaries. Many of the known sites have not been fully recorded and even less have been evaluated for their significance for listing on the National Register of Historic Places. Some areas of the Mountain City District have had large areas of land surveyed, while other areas have had none. In the past, the areas surveyed have been solely dependent upon ground disturbing activities that have the potential to adversely affect heritage resource sites. These activities include mineral exploration areas, wildland or prescribed fire locations, or are grazing related such as fence construction or water trough installations.

Evaluating sites for their eligibility to the National Register is critical for planning purposes. The National Register criteria are designed to weed out the best representative examples of a site type that are worthy of protection. If a site is not eligible then project avoidance is not necessary. If a site is determined eligible for listing then all efforts should be made to avoid the site with project activities or the site would require mitigation. Approximately 34 of the sites recorded on the Mountain City District have been evaluated as eligible and 242 sites have been evaluated as not eligible. The remaining 183 sites have been left unevaluated. These sites need to be evaluated to determine which require protection.

The desired future condition concerning heritage resources is to have all recorded sites evaluated for their National Register eligibility, have all known but unrecorded sites

recorded, and to have sample surveys in areas that have yet to be explored within the district. The GLO maps and archival information are valuable sources of information concerning unrecorded sites. The north and northeast portions of the district would benefit from additional heritage resource surveys.

In addition to surveying unexplored lands and recording and evaluating heritage sites an ethnographic overview of the Western Shoshone's use of the land throughout the district would be beneficial. At this point there are no identified Native American sacred sites or traditional cultural properties.

RESEARCH CONTEXTS

NATIONAL REGISTER CONSIDERATIONS

STANDARDS OF SIGNIFICANCE
The National Register of Historic Places (NRHP), maintained by the Secretary of the Interior, is the nation's inventory of important historic resources. Section 106 of the National Historic Preservation Act of 1966 (as amended) stipulates that all historic properties associated with Federal undertakings must be evaluated for the potential for inclusion on the National Register. To be eligible for National Register consideration, a property must possess integrity of location, design, setting, materials, workmanship, feeling and association, and it must contribute to an understanding of history or prehistory through the variety, quantity, clarity, and research potential of the information present, and must

A. Be associated with events that have made a significant contribution to the broad patterns of our history; or

B. Be associated with the lives of persons significant in our past; or

C. Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Have yielded, or may be likely to yield, information important in prehistory or history.

Research Themes

A number of themes have been identified within the Mountain City Ranger District. A summarized context for each theme is included in this overview. The themes include:

Prehistory
Ethnography
Exploration/Early Settlement
Nevada Ranching, Farming & Irrigation
Forest Service Development/Administrative Sites
Mineral Extraction/Townsite Development
Transportation Routes

A FRAMEWORK FOR ASSESSING HISTORIC SITE SIGNIFICANCE

"Historical archaeology studies the archaeological remains that document and symbolize the social and cultural pattern of the modern world" (Hardesty and Little 2000:4). The beginning of the modern world is defined at different points in time by different individuals. To some it is the time when a capitalistic world economy emerges in Western Europe. It is a time marked by large-scale social systems, "global population movements, conflict, social and cultural diversification, urbanization, industrialization, and environmental change" (Hardesty and Little 2000:4). Historical site types are wide ranging from simple isolated finds to regional landscapes. Sites are classified into five specific categories; object, building, structure, site or district. They can include sites associated with early exploration of the "New World", settlements of various sizes, emigrant trails, military sites, transportation networks that include roads and railroads, Indian reservations, mineral exploration, ranching, and recreation. Even though many historic sites have been impacted by recent cultural activities and natural processes, they still have the potential to "yield information about changes in technology, social organization, and ideology" (Townsend et al 1993:1). Obviously, considering the abundance of historic sites they are not all considered significant for listing on the National Register, therefore, each site is evaluated against the National Register criteria listed previously.

Evaluating historic sites is completed following a series of five steps that Hardesty and Little (2000:12) have outlined. These include categorizing the property, determining the appropriate historic context that the site relates to, evaluating the site according to the National Register Criteria, applying the criteria considerations, and determining if the property retains enough integrity to uphold that significance. Step 1, *Categorizing the Property* simply involves determining if the property is an object, building, structure, site or district.

The next step is to determine which historic context the site represents. This step is important because a site's significance cannot be determined if it cannot be placed into a context. "Historic contexts are those patterns, themes, or trends in history by which a specific occurrence, property, or site is understood and its meaning (and ultimately its significance) within prehistory or history is made clear" (USDI 1991:4). Hardesty and Little (2000:14) have defined four steps to creating an historic context. They include:

- Identifying the theme, time period, and geographic limits
- Assembling the existing information and synthesizing the information
- Defining property types
- Identifying further information needs

The third step in evaluating a site is to evaluate the site's significance under the four National Register Criteria A-D. A site must be important under at least one of these criteria, be associated with an important historic context and retain sufficient integrity in order to convey its significance (step 5).

The fourth step, applying the criteria considerations, involves determining whether a site is eligible for the National Register. The National Park Service has determined that certain property types are not eligible for a listing on the National Register. These properties include "cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance with the past 50 years" (USDI 1991:2). There are certain criteria, however, in which these property types may qualify. They include reasons such as a religious property that is important for its architecture, or a moved structure that is architecturally significant or constructed for that purpose.

The final step is to determine whether the site retains enough integrity to convey its significance. The National Park Service has identified seven aspects of integrity: location, design, setting, materials, workmanship, feeling and association. A property must retain all or some of these aspects in order to convey its significance. "Determining *which* of these aspects are most important to a particular property requires knowing why, where, and when the property is significant" (USDI 1991:44).

The following contexts have been written in order to place the identified themes into their respective contexts from which sites can be evaluated. Some contexts were previously developed and are attached as Appendices.

PREHISTORY

Although maps showing all site locations are necessary for defining prehistoric settlement patterns, not all sites will advance our knowledge of prehistoric lifeways and thus are not considered eligible for listing on the NRHP. Many of the sites encountered on the Mountain City District represent a long time span of multiple occupations (palimpsests) that blend into one another making research difficult. Due to thin soils and the paucity of vegetation in many places, sites have been exposed to various adverse effects including erosion, livestock damage and unauthorized collection. The plethora of prehistoric sites, both large and small in the Mountain City District, necessitates various methods of evaluation. Simple methods of initial evaluation in the field are necessary for management purposes and can easily determine whether a site meets NRHP criteria. Other methods are necessary when a site may contain qualities that could make it eligible.

Because stone materials constitute the majority, if not the only material left to indicate a site location, they become very important in analysis of sites. Stone debitage and tools provide a great deal of information that can be directly linked to a site's eligibility. In many cases the lithics alone can be used to determine, not only lithic technology, but site structure and function, settlement and subsistence patterns and chronological information. All of the following methods of evaluation rely heavily on lithic tools and debitage for determining eligibility.

A number of methods have been developed to assist in determining site significance at Prehistoric sites. Four methods will be discussed; Bryan Hockett's (1996) evaluation of sites with Brown's Bench Obsidian, Robert J. Jackson's *Proposed Programmatic Approach for the Identification and Evaluation of Surface Flaked Stone Scatters on the Toiyabe National Forest,* Anna Rago's evaluation of sites in the Independence Mountain Range in Elko County, and finally a Forest Service developed method to assist with simple field evaluations.

Bryan Hockett's Brown Bench Obsidian Evaluation Method
This method was developed by Bryan Hockett (1996) for evaluating sites in northeast Elko County where Brown's Bench Obsidian is prevalent.

Virtually no research has been conducted on obsidian artifacts found on sites in the Mountain City District. No obsidian XRF analysis has been conducted to determine where the obsidian came from. Research outside the forest at Pie Creek Rockshelter, conducted by the BLM and has shown that the vast majority of artifacts sourced are from the Brown's Bench source, thus it is appropriate to infer that obsidian found on Mountain City sites would also be from Brown's Bench. The BBO source is located to the east of the Jarbidge District and is available as small to medium sized cobbles that lie on top of the ground. No quarrying is required. BBO "extends over the entire region of northeastern Elko County, and even extends into southern Idaho and northwestern Utah" (Hockett 1996). Procurement of this material requires little energy expenditure since it is found in relative abundance.

Numerous sites are found within the Brown's Bench Obsidian Source Area (BBOSA) and are often very large in areal extent. These "large sites probably represent palimpsest accumulations, or multiple short term occupation sites that have blended into one another over centuries of use" (Hockett 1996). The smaller sites probably represent short-term lithic reduction stations or short-term procurement locations of other resources.

Dating of BBO is important to understanding the prehistory of the region. Over 100 projectile points of BBO were dated using obsidian hydration analysis (Hockett 1996). Hockett's research showed that artifacts manufactured from BBO can be placed within the following relative scale (um=micrometer 10^{-6}):

0-5.0um	Late Holocene
5.1-9.4um	Middle Holocene
9.5um-above	Early Holocene

BBO also exhibits variability in its geochemical signature due to the presence of multiple eruption chambers. However, its general make-up is homogeneous enough that it displays a Browns Bench geochemical type. This makes BBO useful for sourcing analysis as well. BBO has been found as far south as southern Butte Valley in White Pine County since the time of the Western Stemmed Tradition (Hockett 1996).

Research in the BBOSA has shown that many sites located on ridge tops and between major drainages probably do not exhibit natural stratigraphy and therefore do not contain subsurface cultural materials. If the sites are small, approximately 20 obsidian artifacts, and do not have any diagnostic artifacts, then obsidian hydration dating may only be able to temporally place the site within a general chronological framework. In larger sites that represent palimpsest assemblages, obsidian hydration dating of non-diagnostic flakes would be impractical and costly. Lithic scatters located within or near major drainages or springs have the potential for both natural and cultural stratigraphy.

Chronologic and lithic technology data can be gathered at sites that do not contain diagnostic projectile points or depth if the sites are small and exhibit discrete clusters of artifacts that contain an adequate number of flakes and bifaces. Hockett suggests that 20 flakes and/or bifaces that are large enough for hydration analysis would provide an adequate sample to place the site in a chronological framework and provide information on settlement patterns. Detailed analysis of lithics found on a small site may also provide information on lithic technology.

On larger sites, where there are no discrete artifact clusters, projectile points or bifaces, gathering chronological information may be more difficult since the sites may represent numerous overlapping occupations. However, if discrete clusters are apparent on larger sites they may yield useful data on settlement patterning.

On small or large sites that contain typeable projectile points, problems with chronology may be addressed. These sites may provide additional information that would refine existing projectile point chronologies. Hockett identifies one issue; the placement of split stemmed points in the region.

Hockett (1996) has also recommended criteria for evaluating sites within the Brown's Bench study area. He divides the criteria into two categories; sites that lack cultural and natural depth but retain integrity and those that contain depth. These criteria are listed here:

Sites that lack cultural and natural depth but retain integrity may be eligible for the National Register if:

1) They contain a relatively large number of typable projectile points that are made from obsidian; this characteristic would apply to both small and large sites.
2) They are small sites that contain discrete clusters of artifacts and at least 20 obsidian flakes or bifaces that are suitable for hydration analysis; because of the applicability of obsidian hydration dating, diagnostic artifacts such as projectile points need not be present.
3) They are large sites, which contain small discrete clusters of artifacts within their site boundaries, which may represent individual procurement activities.
4) They contain relatively large numbers of obsidian artifacts that are exotic to the immediate region.

Sites that contain depth may be eligible for the National Register if:

1) They maintain good integrity AND display any one of the four characteristics listed above, in addition to the following:
2) They provide evidence that the depth present is such that additional chronological information, subsistence data, etc. may be preserved beyond the data available from the surface of the site.

Sites that would not be eligible for the National Register include those that lack integrity, are large extensive sites that suggest multiple use over centuries of time, do not have the potential for natural or cultural depth, do not contain discrete clusters of artifacts, or do not contain diagnostic artifacts such as projectile points or ceramics.

Proposed Programmatic Approach for the Identification and Evaluation of Surface Flaked Stone Scatters on the Toiyabe National Forest

Another evaluation option is the use of the "Proposed Programmatic Approach for the Identification and Evaluation of Surface Flaked Stone Scatters on the Toiyabe National Forest" by Robert J. Jackson (1994). This draft document, attached as Appendix A, was initially developed for evaluating sites found during a minerals land exchange survey in central Nevada. Since the majority of sites in the Mountain City District are lithic scatters this programmatic approach could prove useful, although it does require a certain degree of site testing. This evaluation process is useful for determining site eligibility when a site has the potential for subsurface deposits but initial observations show that only lithics are present. If any features or other artifact types, such as groundstone, are found during testing then this method of evaluation cannot be utilized.

Anna Rago's *Prehistoric Research Context*

Another more in-depth method for evaluating sites was developed by Anna Rago for the Independence Mountain Range in Northeastern Nevada and is attached as Appendix B. The context has been modified slightly to address specific concerns across the entire district and not just the Independence Range. This context can be used to evaluate sites that are potentially eligible for listing on the National Register of Historic Places since

the evaluation process is more specific and requires a higher degree of testing and research. This evaluation process should be used when features and artifact types other than lithics are observed. It can also be used if there is a potential for subsurface features such as hearths or if there is the potential for gaining additional information from buried wood or other organic items such as might be found in a rockshelter.

Forest Service Field Method of Evaluation

The following additional criteria have been developed to facilitate determining whether any site retains the characteristics that make it eligible for inclusion on the National Register. A site must meet all of the following five criteria in order to determine, in the field, that a site is not eligible for listing. If a site fails to meet any one of the criteria then an alternative method, such as one described previously, must be used for evaluating the site.

1) A site is a surface lithic scatter that has little (less than 10cm of soil deposition) to no potential for subsurface deposits. In these cases a site is situated on bedrock or a rock outcrop and shovel probes are not possible.

2) The site lacks diagnostic artifacts from which to define a specific cultural chronology.

3) The site lacks artifacts other than lithics. No groundstone, rock features or other artifacts or features are found or expected at the site.

4) The site lacks a significant quantity of obsidian debitage from which to do obsidian hydration and xrf analysis. At least twenty (20) pieces of obsidian of an appropriate size are necessary to produce a statistically significant range of dates of occupation (Hockett 1996).

5) The site lacks integrity due to severe ground disturbing activities. These disturbances may include livestock use, contemporary constructed features, or severe erosion.

Known Site Types

Approximately 12.5% of the Mountain City Ranger District has been surveyed for cultural resources. By far the majority of site types (N=291) are temporary open camps with scatters of tool stone debris. Other site types include a hunting blinds, chert toolstone quarries, rockshelters. The majority of sites recorded are located in the southern Independence Range or along perennial waterways. These sites are generally small and can probably be attributed to hunting forays. Most of the site records indicate that cattle or sheep grazing had occurred on site. In some instances these records indicate that cattle and sheep grazing have had an adverse impact on the site's integrity, usually through trampling.

Expected Site Types
Additional surveys in the Mountain City District will most likely reveal the same types of sites that have been found to date, particularly open camps. Additional hunting blinds, rockshelters or chert toolstone sites may be found. Sample surveys in areas of the district that have received minimal archaeological surveys should be conducted to add to our knowledge of Native American use of the area.

ETHNOGRAPHY

Refer to the previous section beginning on page 31 for ethnographic information. Development of an ethnography of the Western Shoshone in Elko County would be beneficial to our understanding of Native American use of the land in the Jarbidge District.

Known Site Types

Knowledge of ethnographic and current use of Forest Service managed lands by the local Native American Tribes is limited. It is assumed that some collecting of plant resources such as wood, berries and basketry material is still done. Hunting is most likely another contemporary activity pursued. No traditional cultural properties within the district have been reported to Forest Service staff, however, it is assumed that some do exist and their locations are known by Tribal elders. Local Tribal members were consulted during the early stages of writing the draft range environmental impact statement for information on any particular areas that they had concerns about. They did not convey any concerns about any particular area or site in the Mountain City District or provide additional information concerning current uses.

Expected Site Types

Because this area was inhabited by Euro-Americans later than other areas of the state, it is assumed that some protohistoric or contact period sites may be found. These sites may include historic wickiup features with a combination of toolstone artifacts and historic trade items such as knives, cloth and beads. Other hunting features, such as game drives like that found on the Jarbidge District, dating to historic times may also be found. Evidence of Native American workers at mine sites or ranches may also be found in the archaeological and historic record. Traditional Cultural properties are also expected but the Tribes may keep that information confidential.

Research Questions

1.) Excavations at Deer Creek Cave suggest that the prehistoric Native American population did not rely heavily on deer procurement; however, Kitty Wilkins' diary suggests that the game drive she witnessed was done on a regular basis,

although not every year. Were game drives used on the Mountain City District and if so when did Native Americans begin using the gamedrive system of deer procurement and for how long?

2.) Are there traditional cultural properties within the district boundaries?

3.) Were more remote areas of the district inhabited longer than those areas that were more easily accessible to Euro-American settlers?

4.) Is there evidence of adaptive change to Euro-American ways in site assemblages?

EXPLORATION & EARLY SETTLEMENT

The following context from the Nevada Comprehensive Preservation Plan, has been summarized from the document "Exploration and Early Settlement" by Terri McBride (2002) unless otherwise noted.

McBride identifies four distinct time phases for exploration and early settlement;

- 1826-1833 fur trappers and commercial caravans
- 1834-1853 sponsored exploration
- 1844-1859 emigration
- 1851-1859 earliest settlements.

1859 has been designated the cutoff date for the exploration theme since that year marks the Comstock discovery and the turning point for settlement in Nevada.

Fur Trappers & Commercial Caravans, 1826-1833

Fur trappers entered the Great Basin during the late 1820s. "They were driven into this previously unknown region by national interests, chiefly American and British, in their desire to gain access to lucrative beaver streams" (McBride 2002: 1). Jedediah Smith was the first fur trapper to enter the Great Basin area as early as 1826. His travels west took him through southern Nevada and then on his return trip he passed through the Tonopah and Ely areas.

Peter Skene Ogden of the British-owned Hudson's Bay Company was the first trapper to spend any length of time in northeast Nevada. He entered the corner of Nevada briefly in 1826 and returned between the years of 1828 and 1830. It was during his 1828 "Snake Country Expedition" that Ogden found the Humboldt River, which would later become a major travel corridor through Nevada.

Small scale trapping expeditions occurred throughout this time period, however, they were fairly minimal since many of the previous expeditions had proved nonlucrative. Between April and July of 1831, Commander of the Snake Country Brigade John Work, Ogden's successor, entered northeast Nevada to trap. He followed along Ogden's previous route from Utah to Nevada until he reached Snowwater Lake in Clover Valley.

From here he headed northwest toward Wells where he entered the headwaters of the Humboldt River. From here he trapped along the lower Mary's River and the North Fork River to its headwaters, then along tributaries of the Bruneau and Owyhee Rivers, possibly entering areas of the Mountain City District (Patterson et al 1991:74). Work's hunt was relatively unsuccessful and only small parties from the British company were sent to trap in Northeast Nevada for the next 14 years.

Sponsored Exploration, 1834-1853

Between 1834 and 1853 the United States government sponsored expansionists' explorations into the American West to get a better understanding of the geography and to map that virtually unknown area. John C. Fremont led a number of exploration parties into the American West. His second (1843-1844) and third (1845) sponsored trips brought him into the Great Basin, which he named as such. His fourth trip (1853-1855), privately funded, brought him again into the Great Basin, but was considered his least important trip.

Between 1843 and 1844 Fremont scientifically mapped and described the Great Basin. This expedition left Kansas City, Missouri in May 1843 with 39 men, which included cartographer Charles Preuss and guide Thomas "Broken Hand" Fitzpatrick. When they reached the Rocky Mountains, Kit Carson, Joseph Walker, and Alexis Godey joined the party. Their journey took them into the Oregon Territory then south into northwestern Nevada. It was during this trip that Fremont named Pyramid Lake, the Salmon Trout River (now known as the Truckee River), and the Carson River after Kit Carson.

Fremont's 1845 trip brought him into northeastern Nevada. His journey in the Great Basin began around the Great Salt Lake in October of that year. He continued into Northeastern Nevada passing Pilot Peak. During this journey Fremont and his men remapped the Humboldt, Carson, Walker, and Truckee river basins. His party divided up at Mound Spring with one group following Ogden's trail through Secret Pass and Fremont traveling across the Ruby Mountains at Harrison Pass.

The government's expansionist philosophy resulted in the annexation of Texas and involvement in the Mexican War from 1846-1848. This war led to the annexation of northern Mexico, which ultimately became the states of New Mexico, Utah, Arizona, Nevada and California.

Federal exploration of Nevada did not begin in earnest until the 1850s, following the war with Mexico and the discovery of gold in California. The main goal now was to find transportation routes including a transcontinental railroad route through the far west. Lt. Edward F. Beale led the first surveys in Nevada in 1853 for the Pacific Railroad. His surveys followed Fremont's Spanish Trail in southern Nevada. Fremont's final trip into the Great Basin from 1853-1855 was to find a railroad route near the 38 degree, 39 minute parallel. This trip brought him into the central Nevada area.

It was in 1854 that a transcontinental railroad expedition led by First Lieutenant Edward G. Beckwith entered the northeastern Nevada area. He was directed to find a route that

passed south of the Great Salt Lake then into the Humboldt or Mary's River sink and continuing into the Black Rock Desert area. Beckwith entered Ruby Valley sometime in May of 1854 and from there traveled across numerous mountain ranges south of the Humboldt River.

A number of other explorers traveled through the Great Basin but none traveled through the Mountain City District area. The closest they came was south along the Humboldt River and Ruby Valley. They did, however, document much information concerning the environment of the Great Basin. Jules Remy, French naturalist and Julius Brenchly, his English traveling companion collected specimens and documented the plant and animal life along their travels from Salt Lake City to San Francisco in 1855. Captain James H. Simpson of the Corps of Topographic Engineers led a geographic and map-making expedition through Nevada that followed the Overland Mail and Stage Route through the Ruby Mountains in 1859. Simpson produced a comprehensive map of the region as well as document geographic information and Native American ethnographic data.

Emigration, 1844-1859

Emigrant travel through Nevada began as early as 1841 with the Bidwell-Bartleson Party from Missouri who traveled across Nevada to reach California. One member of their party, Joseph Chiles, returned to Missouri to encourage other friends to journey to California. In 1843 he returned to California guided by Joseph Walker. They followed Walker's previous route along the Humboldt River. In 1844 Elisha Stevens led an emigrant party from Fort Hall that also followed Walker's route along the Humboldt River.

The California Trail also passed through northeastern Nevada, partly along the Humboldt River. A number of "legs" or sections of the trail followed different routes. The most infamous was perhaps the Hastings Cutoff identified by Lansford W. Hastings. Hastings encouraged other emigrants to follow his cutoff that crossed the Ruby Mountains at Overland Pass and then turned north to the South Fork of the Humboldt River. In 1846 the Donner Party tried Hastings route which cost them valuable time, resulting in them being stranded in the Sierras after an early snowfall. The reports of the ultimate disaster of the Donner Party discouraged travel along this route until 1849. Most emigrants continued traveling along the Humboldt River/California Trail route until the establishment of the transcontinental railroad in 1869.

Early Settlements, 1851-1859

Settlements often began along early transportation routes, particularly near water sources. These settlements were initially established to support emigrant travelers on their way to the gold fields in California. Some of these earliest settlements were begun by Mormons who intended to capitalize on the volumes of people moving through the Great Basin. Most of these settlements began along the eastern base of the Sierra Nevada and south in the Las Vegas area. In northeastern Nevada the town of Elko wouldn't be established until 1868.

By 1850 what is now the state of Nevada was part of the Utah Territory. It wasn't until 1861 that the Nevada Territory was carved out of the Utah Territory. Nevada finally achieved statehood in 1864.

Known Site Types in the Mountain City District
There have been no sites associated with exploration and early settlement between 1826 and 1859 recorded in the district.

Expected Site Types
This exploration and early settlement theme is not a significant component of the history of the Mountain City District. Early explorers and emigrants stayed mainly to the south along the Humboldt River and in the Ruby Valley area. Early trapping in the Mountain City District area was minimal with Odgen and Work leading the only two known parties into the Bruneau and Owyhee River areas between 1826 and 1831. Given that, there is the potential to find small widely dispersed campsites associated with either of these trapping expeditions. Camps would be very small containing a limited artifact assemblage and few to no features. Most likely these camps would be situated along rivers and or larger streams that would have had the potential to support beaver.

Potential Research Questions

1) Can the site reveal information concerning the trapper's lifestyle?

2) Do the artifacts reflect economic status?

3) Do the artifacts reflect items that were brought in from Canada or that were acquired along the way?

4) Is there evidence that the Trapper's mission modified the environment?

NEVADA RANCHING, FARMING & IRRIGATION

The following is summarized from "Ranching And Farming In Nevada" by William D. Rowley from the Nevada Comprehensive Preservation Plan, unless otherwise noted.

Rowley has defined seven distinct time periods within the ranching, farming and irrigation context of Nevada. They include:

- Early Mormon Settlement and Overland Travel: 1851-1858
- Comstock and Mining Related: 1859-1868
- The Railroad and the Open Range: 1869-1899
- The Progressive Era: 1900-1913
- World War I and the Subsequent Depression: 1917-1932
- The New Deal: 1933-1941
- Diminishing Returns in an Urban State: 1942 – Present

All of these time periods reflect a change in ways the ranching community has changed and adapted to the environment and social changes through the years. Historic documentation of Euro-Americans being in the Mountain City District area during the first time period has not been found and it wasn't until the very end of the second period that people began entering this area. Even though there were no known settlers in the region during the first time period it will be briefly discussed here as it still plays an important role in the settlement and future economic pursuits in Nevada.

Early Mormon Settlement and Overland Travel: 1851-1858

The first grazing in Nevada was by stock led through the area during the gold rush to California. Travel along the Humboldt River depleted forage resources "by the early 1850s forcing teams and cattle to find grazing on upland benches during the journey" (Rowley nd:1-3). Mormon John Reese began the first agricultural community in Carson Valley. Mormon Station (later called Genoa) was begun in response to emigrant traveler's needs and those of the miners in California. Genoans grew and supplied various vegetables to California bound travelers. Their success prompted other agricultural communities to begin along the Eastern Sierra Nevada.

The first stock to enter Nevada on a permanent basis was brought in by Mormon Peter Haws. Haws settled along the Humboldt River where he bartered fresh stock for the emigrant's travel weary cattle and oxen. Although his stock may have been illegally obtained he was nonetheless able to acquire a surplus and began small ranching operations to the north and south of the Humboldt River in the 1850s.

By 1858 Ruby Valley had become a holding ground for cattle moving from Salt Lake City to the Truckee Meadows. The freighting firm of Russell, Majors and Waddell attempted to winter 3,500 head of oxen in the valley in 1859. Unfortunately all but 200 head survived the severe winter. This did not deter future ranching in the valley as they eventually demonstrated that large numbers of cattle could survive in the valley even during the winter.

There are no records to indicate that ranching in the Mountain City District area had begun during this time period. There were no emigrant trails in this area, which would have brought travelers through and the potential for early settlements.

Comstock and Mining Related: 1859-1868

During this period ranching and farming were mainly associated with the growth of mining towns in the western portion of the state. Large ranches and farms were developed along the eastern base of the Sierra Nevada Mountains. Ranchers in Ruby Valley purchased cattle to support mining communities like Austin and Eureka. Len and Norman Wines of Salt Lake City, Utah and Ruby Valley, Nevada purchased cattle from Colonel J. J. Myers of Salt Lake City. They drove the cattle to Ruby Valley where they "were held on open range until sold in mining camps" (Patterson et al 1991: 209). Along the Humboldt River corridor and within its watershed, cattle herds were surviving on Great Basin wild rye and "winterfat."

Mining was just beginning in this area. The 1867 discovery of placer gold at Tuscarora brought droves of miners to the area, which in turn encouraged ranching. Other people had passed through the area on their way to or from other mining camps or cities, mainly between Nevada and Idaho.

The Railroad and the Open Range: 1869-1899

The advent of the transcontinental railroad meant that ranges could now be stocked by rail instead of trail. Texas cattlemen John Sparks and John Tinnen established the Rancho Grande in the Northeast corner of Nevada. Pedro and Bernardo Altube, Basque cattle ranchers from California, brought in 3,000 head of cattle to Independence Valley near Tuscarora. Beginning in 1870 the sheep industry also expanded greatly, successfully competing with cattle for meat and wool products.

It was during this period that we begin to see people settling in the Mountain City District area for ranching purposes. Construction of the railroad brought people closer to the region making it more accessible. Historic documents show that ranches had been developed by the 1880s. The wide open spaces with plenty of room to graze cattle and sheep was most likely another impetus for settling this area.

Nevada's ranching operations utilized the free and open range in their cattle operations. By the late 1880s overstocking and overgrazing became a serious problem. As native grasses were depleted, invasive plants such as Russian thistle, cheat grass and shrubs began to take over the rangeland. During the devastating winter of 1889-1890 large numbers of cattle died. "The severe winter exposed the abuses of the open range cattle industry and the depletion of the forage resource caused by the intensive grazing of large numbers of stock. Sheep, however, fared much better than cattle through the winter and maintained a competitive edge. By 1890, there were an estimated 3,000,000 sheep in the state" (Rowley nd:1-7).

The devastating winter of 1890 forced ranchers to begin feeding their cattle during the winter months. As a result raising alfalfa and other hay products became necessary. With this type of agriculture came the necessity for irrigation ditches, forcing cowboys to become ditch managers, hay hands and haulers.

In 1891 the first National Irrigation Congress held a conference in Salt Lake City. As a private organization they saw the potential in the arid west if only water could be made available. Francis G. Newlands came to Nevada from California to seek a political career. His main focus was to establish an irrigation program that would attract a stable farm population to Nevada to break the cycle of boom and bust that was so prevalent with the mining communities. Newland promoted various state, county and community irrigation schemes throughout the 1890s. None of his schemes were launched, except for a few local private undertakings, largely because they were eclipsed by the state fervor over remonitization of silver.

The Progressive Era: 1900-1913

The turn of the century saw the term irrigation replaced with reclamation. "Reclamation and conservation were important aspects of the western Progressive Movement, all of which demanded closer government regulation and more efficient use of western resources" (Rowley nd: 1-8). Francis Newlands was instrumental in getting the National Reclamation Act passed in 1902. This Act committed federal funds for development of western irrigation projects on farms no more than 160 acres. The 160-acre cutoff was to insure that small family farmers, not large corporate farmers, would benefit from the irrigation subsidies. However, in order to qualify for the funds state water laws had to meet federal standards. In 1903 the Nevada Office of State Engineer was established to administer water resources, which also included sanctioning water rights and issuing water use permits.

The Progressive Era also saw the establishment of National Forest Reserves in Nevada. The General Revision Act of 1891 made provisions for establishing Forest Reserves based on timber resources and water quality. Although Nevada was lacking in merchantable timber, local land-owning ranchers petitioned the federal government to establish reserves in Nevada to protect watersheds. They were also aware that these reserves would establish range regulations, thereby protecting their own interests, and prohibiting roving bands of stock, particularly sheep, from destroying range resources. By the early 1900s conflicts between sheep and cattle ranchers were heating up in Ruby valley in southern Elko County. Cattle ranchers gathered to discuss ways to protect the interests of the cattle. They petitioned U.S. Chief Forester Gifford Pinchot to create a forest reserve. On November 5, 1906 the President of the United States signed a bill creating the first forest reserve in Elko County, the Ruby Mountain Forest Reserve, which later became part of the Humboldt National Forest.

Even after the establishment of the Forest Reserves there remained a vast amount of unregulated rangeland in Nevada. The Homestead Act of 1909 and the Cattleman's Homestead Act of 1916 attempted to turn some of this public land into private property. Unfortunately these Acts failed and much of the land remained in the public domain.

World War I and the Subsequent Depression: 1917-1932

At the beginning of World War I there was an increase in the production of a wide variety of agricultural products, which was regrettably short lived. The beginning of the Depression began in 1919, and through 1925 a slump in the cattle market caused ranchers to struggle to survive. "Increased production costs and low prices generated havoc and forced liquidation of breeding stock and ranches" (Patterson et al 1991: 241). George Wingfield, a prominent Nevada banker, extended numerous loans across the state to hundreds of ranchers and farmers during the 1920s.

Unfortunately the situation continued to worsen with the dry summer and winter of 1931 when "all livestock interests of Elko County suffered seriously" (Patterson et al 1991: 241). From the summer of 1931 to the spring of 1932 there was so little precipitation that irrigation produced only 20% of a normal hay crop. It was necessary

for ranchers to begin buying hay to feed their cattle but due to limited budgets this posed financial difficulties for the rancher. As a result cattle starved and the livestock industry collapsed. Wingfield closed the doors on all of his eleven banks.

The New Deal: 1933-1941
In 1933 the Agricultural Adjustment Act was formed as part of the Federal New Deal agricultural relief program. The Act was administered by county extension offices that attempted to boost market prices by paying farmers to not plant crops. The severe drought of 1934 prompted the federal government to buy stock weakened by the drought and to also implement a program to improve public rangelands. In 1934 the Taylor Grazing Act was established. It repealed the homestead laws and instituted a system of regulations for grazing on public lands in an attempt to conserve forage resources. This Act also created the Grazing Service, which was later incorporated into the Bureau of Land Management.

Additional programs associated with the New Deal were established to help out the ranching and farming communities. The construction of several dams was undertaken jointly by the Bureau of Reclamation and the Works Progress Administration, and the Rural Electrification Administration brought electricity to farmers and ranchers who lived far from established power lines. Unfortunately these programs came too late and Nevada ranchers continued to decline. A state and business sponsored campaign, led by real estate mogul Norm Biltz, attempted to lure wealthy investors to buy Nevada ranches by advertising low state taxes. A Nevada residency also meant a safe haven for their money.

Diminishing Returns in an Urban State: 1942 – Present
World War II saw the demand for agricultural products increase; however, in turn it created shortages of labor in rural areas. "The Extension Service facilitated a program to bring Mexican nationals into the state to harvest hay, irrigate fields, and plant and harvest row crops" (Rowley nd: 1-12).

During this time we also see a new trend developing in the agricultural community, fewer but larger ranches. As small ranch owners realized they could not survive they sold their ranches to larger interests, many which were out of state investors.

The cattle and agricultural communities continue to struggle. Environmental laws and budget cuts have resulted in a decrease in the number of cattle permitted on range allotments. The increased urbanization of Nevada has also created stiff competition for water rights and usage.

Known Site Types in the Mountain City Ranger District
Within the 12.5% of the district surveyed approximately 77 sites have been recorded that are affiliated with early ranching in the area. Although the majority of these sites are aspen carving sites with potential camp debris, other site types include historic ranches that contain the remains of cabins and/or other ranch features.

Expected Site Types
An unknown number of additional historic ranch sites with associated buildings and features are within the watershed and have yet to be recorded. Their approximate locations are shown on historic maps. Other sites that may be found within the watershed include temporary cattle and sheep camps with carved aspen trees, historic stock driveways, corrals, fence lines, water conveyance systems, small constructed ponds, trough locations and cultivated fields.

Potential Research Questions

1) Does the property provide information about a poorly documented event or statistical population?
2) Does the property have important interpretative potential because of the large number and variety of surviving elements related to the ranching and farming process?
3) Does the property retain a wide range of individual building types that illustrate the various activities associated with ranching?
4) Does the property provide important information about the historical changes in ranching and farming practices? Are changes that resulted from the extreme winter of 1889-1890 reflected in the archaeological record? Are there abandoned ranches scattered about the district due to this winter?
5) Was the property closely associated with the introduction of a new agricultural practice?
6) Was the property the first to be established in a particular valley or region?
7) Was the property closely associated with a historically important route of travel?
8) Was the property associated with a historically important individual?
9) Was the property associated with a particularly significant event in history?
10) Is the property significant architecturally?

The critical data needed to answer these questions include documentary accounts, oral histories, or physical remains of ranches.

FOREST SERVICE DEVELOPMENT & ADMINISTRATIVE SITES

This theme has been researched and all standing administrative structures associated with early Forest Service development have been evaluated in *Privies Pastures and Portables* by Richa Wilson, 2000.

Known Site Types in the Mountain City Ranger District
Four administrative sites have been recorded and evaluated for their eligibility to the National Register of Historic Places: the Elko Supervisor's Office, 76 Creek, Mountain City and Gold Creek. Most of the buildings associated with these administrative sites are still being used either year round or seasonally. Six structures are at the Elko Supervisor's Office and all six have been determined eligible for listing on the NRHP.

Two structures are at 76 Creek with only the cabin being eligible for listing on the NRHP. At the Mountain City Administrative site seven out of the 10 structures have been determined eligible. And at the Gold Creek Station eight of the twelve structures were determined eligible. Other smaller administrative sites with no structures have been found across the district. The Mahala Creek and Meadow Creek Stations are archaeological sites and have not been researched or evaluated to date.

Expected Site Types
There were a number of additional smaller administrative sites associated with early Forest Service development in the Mountain City District. It is possible that these areas, if they can be found, may contain limited artifact assemblages from which to gather data. Two known sites are the McAfee and Salmon Creek Ranger Stations. Smaller campsites from rangers scouting the district may be found as well. Trails associated and developed by early Forest Rangers may also be identified. Many of the areas frequently used by the Forest Service show up on various historic maps including GLOs, USGS and Forest maps.

MINERAL EXTRACTION/TOWNSITE DEVELOPMENT

An evaluative context for mining related properties has been developed by Hardesty and Jerrums (2002) and is attached as Appendix C. The context was originally written to incorporate all of the Northeastern Forest Service Districts. The attached has been modified in that portions of the report that do not pertain to Mountain City (mainly sections of the Appendix) have been removed from this version.

Known Site Types in the Mountain City Ranger District
Approximately 35 sites recorded in the Mountain City District can be attributed to the historic mining theme. These site types include exploration areas, mines, adits, shafts, tailings, stamp mills, arrastras, small townsites associated with mineral exploration, roads, individual cabin/mine sites, and small artifact scatters.

Expected Site Types
It is known that numerous additional sites related to mineral exploration are to be found within the district boundaries. Historic GLO, USGS and Forest Service maps show various features including mine sites, cabins, and trails/roads that may be associated with the Mountain City District's numerous mining districts. These site types will be similar to those already recorded. Some sites in remote locations may retain more integrity than those found in easily accessible areas or in areas where mining continues. Hardesty and Jerrums expand on expected site types associated with mineral exploration in Appendix C.

HISTORIC TRANSPORTATION ROUTES

"The natural environment of northeastern Nevada dictated the way Anglo-Americans utilized the lands and even the number of people who found the area attractive for

settlement and use" (Kolvet, Mehls 1995:16). Early transportation routes in the Mountain City District are predominately associated with the early ranching, homesteading and mineral exploration themes beginning sometime in the late 1800s. Although transportation routes should be evaluated with respect to their respective themes, this section focuses on evaluation of the road itself.

It wasn't until mineral exploration in the Mountain City District began that transportation routes increased considerably within the district boundaries. Transportation routes were necessary to haul supplies into mining camps and to mineral claims. Just as important was the need to get the ore and minerals to processing plants and the world market. The network of roads and trails in the Mountain City District was a very important aspect of life in this area, both for the rancher and miner. The remote locations of the various townsites necessitated a network of roads to maintain the economic viability of these communities. The hardships experienced in an area, when access to necessary supplies from outside communities is limited, is often reflected in the archaeological record in the form of items that have been repeatedly repaired or reused for other uses.

Besides emigrant trails along the Humboldt River corridor the most important transportation route through northeastern Nevada was the Central Pacific Railroad completed in 1869. The railroad "set the stage for the settlement and development of Carlin, Elko, Wells, and other upper Humboldt River towns, as well as hastening the development of the mining camps situated to the north and south" (Patterson et al 1991:173). The town of Elko became an important commerce center in northeastern Nevada, thus numerous stage and wagon roads emanated from this point to other locations. With the railroad as the main transportation artery other routes were established along it to connect the railroad with developing communities, outlying ranches and mining claims.

Road building has obviously evolved through the years in response to increasing population and economic activities. The earliest wagon roads were constructed in locations that required the least amount of grading and engineering features. The next level of road, usually with more construction aspects, was designed to specifically connect two points such as an existing community with a burgeoning mining camp. The "Early Cope Road" from Elko to Mountain City is one example. The final level of road was the secondary road that radiated from the main roads to other less populated locations. Kolvet and Mehls noted that in the Independence Range of Elko County, NV, it was these smaller secondary roads that were more susceptible to reroute or abandonment. This was due to the roads being "built for very specific purposes such as access to a ranch or mine and as the ranching or mining operations changed or were abandoned so were the feeder roads" (Kolvet, Mehls 1995:18).

The introduction of the automobile resulted in additional changes to road engineering, settlement patterns and economic/trade patterns. The first automobiles utilized the existing wagon roads, which regrettably were not ideally suited to this method of transportation. Increased growth in automobile usage led to passage of the Federal-Aid

Road Act of 1916, which created the Federal-Aid Highway Program. This program was intended to provide funds to state highway agencies for road improvements. Unfortunately the start of World War I put a halt to this program and it wasn't until 1921 that the Federal Highway Act was created (http://inventors.about.com/library/inventors/blcar3.htm). Automobiles also "required more sophisticated engineering and construction techniques and material than those common to horse-drawn vehicles. This led to the upgrading of the suitable roads and abandonment/replacement of others" (Kolvet, Mehls 1995:18).

Ultimately, transportation "networks can be used to define the boundaries of the regional community as well as the linkages between that community and the remainder of the state and nation" (Kolvet, Mehls 1995:18). Historic routes may be able to provide information about important economic or political developments. They can provide information concerning migration of people into specific areas as well as the distribution of goods from one area to another. Roads fostered local communities into becoming commercial centers that provided goods available on both the local and national markets. Hardesty explains this concept of world systems in relation to mining communities in *Historical Mining In The Northeastern Nevada Ecounit of the Humboldt-Toiyabe National Forest* attached as Appendix C (p.13) so it will not be reiterated here.

Site types associated with early transportation routes in the Mountain City District include trails and roads. These transportation routes are potentially eligible under criteria a, b, c and/or d. Under criterion a the routes may be significant from a local, state or national level if they were major routes connecting the various small mining communities with other more developed communities. Under criterion b a road may be eligible if it is associated with an important person. Criterion c evaluates the advanced or unique construction or engineering methods used in the road's construction. Finally, criterion d, which evaluates the archaeological value of a site may also pertain to roads in the Mountain City District if there are historic trash scatters or habitation sites along the road that may contain information concerning life in the late 1800s to early 1900s in the area.

Prior to evaluating a road it is necessary to place construction of the road within a specific time frame in order to determine if it continues to represent the period or time of construction. If the road has been reused for years and has been subject to continued maintenance or the road has been upgraded resulting in the loss of the significance defining features then it may not retain enough integrity to be determined eligible.

Since each site type possesses distinct characteristics, Kolvet and Mehls have defined the differences between various transportation routes (1995:19-20). In the Independence Range they identified four transportation route types, which included trails, roads, highways and railroads. In the Mountain City District only two transportation types have been identified, trails and roads. The Highways that cross through the district are not on Forest Service administered lands. Trails were designed to transport pedestrians and/or animals with packs or riders. They were usually narrow and few modifications to the

landscape were made to accommodate the traveler. They were typically open for public use. In general, trails required very little expenditure to construct and maintain.

Roads were the next level of transportation route. They were constructed to accommodate pedestrians, pack animals and wagons for public use. They were wider than trails possibly reaching to 30 feet in width and are now viewed as two-track roads or two lane roads. Roads required a higher level of capitol investment due to improvements such as culverts, bridges, and retaining walls. In addition they had a higher tendency to require more modifications to the landscape to accommodate travelers. Roads were constructed along surveyed routes or were upgrades of earlier trails. In rural areas long driveways were constructed as a subset of roads. These driveways connected ranches with the main road and were usually for private use only. They resemble smaller width roads.

Each transportation type may have associated features as a part of that route. These features may include bridges, fords, rock retaining walls, road cuts, freight and/or stage stations, roadside debris, campsites, and construction and/or maintenance camps. Stage stations may have a subset of features that may include residential structures, out buildings, corrals, hay fields, gardens, and trash dumps. Trails may also have associated trail blazes, ruts or swales, and an alignment of rocks along its edge.

Known Transportation Routes in the Mountain City District
Portions of twelve roads have been recorded in the Mountain City District. All are associated with mining or ranching and date to as early as 1871. Within the Island Mountain Mining District the Hammond Canyon and Colman Canyon Roads have been recorded and evaluated as significant. A portion of the "Old Cope Road" has also been recorded as well as a small portion of the Jack Creek Road, both that may be potentially eligible for listing on the NRHP.

Expected Site Types
Numerous additional roads and trails associated with ranching/homesteading, Forest Service development and mining are expected throughout the district. Historic GLO, USGS and Forest Service maps show many of these roads and trails that have yet to be recorded. It is expected that many of the transportation routes, particularly roads that lead to mining sites will have associated features such as culverts, rock retaining walls, and possibly bridges. These roads will also lead to sites that have yet to be recorded. Any new trails found are expected to have fewer features than the roads but may have small campsites situated along them.

Potential Research Questions
A number of research questions have been developed to assist in evaluating trails and roads in the project area. Stoner (2001) has compiled a number of research questions under three specific research domains: constructions and maintenance, road use, and economic importance. These domains with their associated research questions are listed

here with some modifications to reflect concerns in northeast Nevada. Some of these questions may also be used to evaluate historic trails.

1) Construction and Maintenance of the Road System
   A. Do physical characteristics of the road provide information concerning its construction and maintenance?
   B. How much of the road required formal construction and how much was the result of continuous use of a route that thus evolved into a road?
   C. What materials and techniques were used to build and maintain the roads?
   D. Do work camps exist? If they do, what are they able to tell us about construction techniques and the workforce?
   E. Was the road designed for efficient and safe use, or was it built in a manner that saved construction costs? Were corners cut?
   F. Can the resources answer questions concerning the evolution of northeast Nevada road systems?
   G. What modifications to the wagon roads were made so that roads could accommodate automobile traffic?

2) Use of the Road System
   A. Can the surviving properties and debris provide information that illustrates the specific types of operations or functions performed by freighting or stage companies?
   B. Can the resources provide information about historic changes in freight or stage line operating practices?
   C. Do the resources show adaptations to meet local needs or conditions?
   D. What was the distance between way points and stopping points? Did the distances change diachronically or between different types of functions and operations?
   E. What types of commercial and private traffic used the roads? Did use change over time and were certain routes used more by one type of traffic than another?
   F. Can roadside debris answer questions about use of the road or habits or the travelers?
   G. Do the archaeological manifestations support the historic records concerning use, construction and location of the roads and trails?

3) Economic Importance of the Road System
   A. Can the property type provide information about the economic development of the region?
   B. What products and merchandise were shipped?
   C. How did the local residents and settlers use the transportation system?
   D. Can the property, alone or in conjunction with others, provide significant information about the ups and downs of the transportation corridor and its associated supply centers and some centers?

Roads and trails must also retain a certain level of integrity in order to be eligible for the National Register. They must retain characteristics and features that convey their historic identity. The Oregon-California Trails Association has developed a set of five categories for classifying the condition of emigrant trails that can also be applied to historic roads and non-emigrant trails (Buck et al 1996:14). These classifications are summarized here.

CLASS 1 – UNALTERED TRAIL/ROAD

The trail/road remains in its original condition with no evidence of impacts from modern vehicles or development.

CLASS 2 – USED TRAIL/ROAD

The trail/road retains elements of its original construction but shows some use by motor vehicles in the form of a two-track road. There is little or no evidence of modern road improvements.

CLASS 3 – VERIFIED TRAIL/ROAD

The route is known from maps, written documentation and artifacts, however, traces of the route have been obliterated or are not visible due to weathering, erosion, and vegetation or they were routed over hard packed, stony terrain or soft sandy soils.

CLASS 4 – ALTERED TRAIL/ROAD

The trail/road location is verified but elements of its construction features have been obliterated or permanently altered by subsequent road construction and other modern intrusions.

CLASS 5 – APPROXIMATE TRAIL/ROAD

The trail/road has been obliterated by large-scale modern developments to the point that only an approximate location can be determined.

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